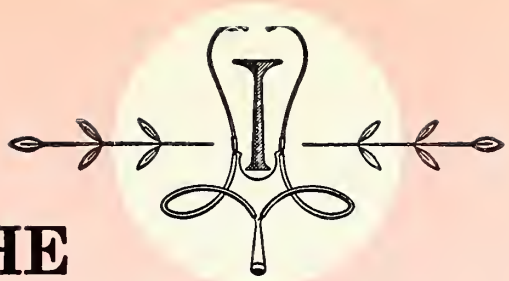

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THE Journal OF THE Kansas Medical Society

JANUARY
1976

VOL. LXXVII
NO. I

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequen and/or severity of grand mal seizures ma require increased dosage of standard an convulsant medication; abrupt withdraw may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous in gestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) hav occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under carefu

respond to one

According to her major
mptoms, she is a psychoneu-
tic patient with severe
xiety. But according to the
scription she gives of her
elings, part of the problem
ay sound like depression.
his is because her problem,
hough primarily one of ex-
ssive anxiety, is often accom-
nied by depressive symptom-
ology. Valium (diazepam)
n provide relief for both—as
e excessive anxiety is re-
ved, the depressive symp-
ms associated with it are also
ten relieved.

There are other advan-
ges in using Valium for the
anagement of psychoneu-
tic anxiety with secondary
pressive symptoms: the
ychotherapeutic effect of
lium is pronounced and
pid. This means that im-
ovement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) ℞

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

rveillance because of their predisposi-
n to habituation and dependence. In
egnancy, lactation or women of child-
aring age, weigh potential benefit
ainst possible hazard.

ecautions: If combined with other psy-
otropics or anticonvulsants, consider
refully pharmacology of agents em-
oyed; drugs such as phenothiazines,
rcotics, barbiturates, MAO inhibitors
d other antidepressants may potentiate
action. Usual precautions indicated in
tients severely depressed, or with latent
pression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVII, Number 1—January, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society. Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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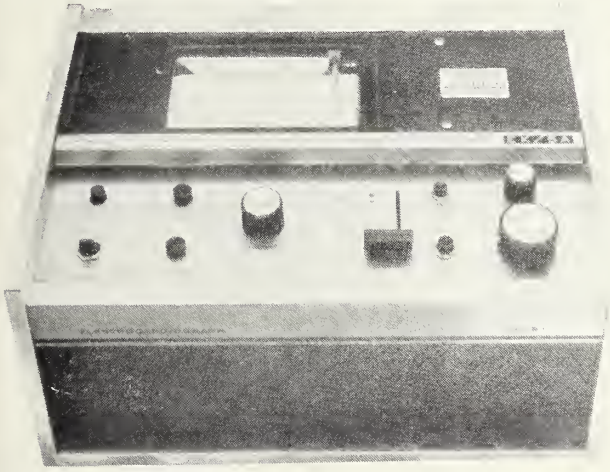
Associate Editors: Jesse D. Rising, M.D., Kansas City; D. Cramer Reed, M.D., Wichita.

Managing Editor and Advertising Manager: Val Braun, 1300 Topeka Avenue, Topeka 66612.

Business Manager: Jeremy Slaughter, 1300 Topeka Avenue, Topeka 66612.

The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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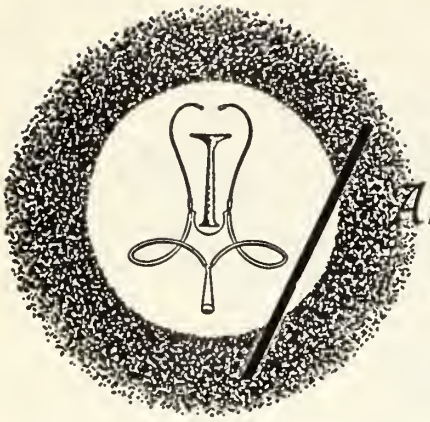
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Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the **Doctor's Calendar.** ***Notice of the session is posted in advance to allow the physician time to make preparations.***

JANUARY

Jan. 28-30 — American Society for Surgery of the Hand, Fairmont Hotel, New Orleans. INFO: Ms G. M. Gorman, 3 Parker Place, Suite 233, 2600 S. Parker Road, Aurora, CO 80232.

FEBRUARY

Feb. 4 — Cancer: *Chemotherapy,* Kansas City, MO. INFO: Ed Bixby Institute for Postgraduate Medical Education, Research Medical Center, 2316 E. Meyer Boulevard, Kansas City, MO 64132.

Feb. 20-21 — Challenges of Ambulatory Care of Tuberculosis, Hilton Hotel, Baltimore. INFO: Sheldon Elman, Baltimore City Health Dept., Division of Tuberculosis Control, 111 N. Calvert, C-232, Baltimore 21202.

Feb. 27 — American College of Physicians Kansas Regional Meeting, Plaza Holiday Inn, Wichita. INFO: John L. Morgan, M.D., 919 West 12th, Emporia 66801.

MARCH

Mar. 1-5 — Aspen Radiology Annual Conference, Aspen. INFO: E. Salzman, M.D., Beth Israel Hospital, Denver 80204.

Mar. 4-6 — Central Surgical Association, Holiday Inn, Rochester. INFO: A. J. Walt, M.D., 540 E. Canfield, Detroit 48201.

Mar. 5-6 — ACP Missouri Regional Meeting, St. Louis, MO. INFO: T. W. Burns, M.D., University of Missouri School of Medicine, Columbia, MO 65201.

Mar. 8-12 — Radioassay Techniques Training Course, San Diego. INFO: N. C. Karpin, 9650 Rockville Pike, Bethesda 20014.

Mar. 11-13 — Gynecologic Endocrinology, Univ. of Tennessee Center for Health Sciences, Hilton Inn-Memphis Airport. INFO: J. R. Givens, M.D., 800 Madison Ave., Memphis 38163.

Mar. 25-27 — Clinical Neuro-Otolaryngology, Pittsburgh. INFO: S. N. Busis, M.D., Eye and Ear Hospital, Pittsburgh 15213.

Mar. 27-31 — American Society of Abdominal Surgeons, Pick Congress Hotel, Chicago. INFO: B. F. Alfano, M.D., 675 Main, Melrose, MA 02176.

APRIL

Apr. 4-9 — American College of Allergists, Las Vegas Hilton, Las Vegas. INFO: E. Bauers, 2100 Dain Tower, Minneapolis 55402.

Apr. 5-8 — American College of Physicians, Civic Center, Philadelphia. INFO: Convention Dept., American College of Physicians, 4200 Pine, Philadelphia 19104.

Apr. 8-9 — AMA National Conference on Rural Health, Hyatt Regency, Phoenix. INFO: AMA Dept. of Rural and Community Health, 535 N. Dearborn, Chicago 60610.

(Continued on page 35)



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□ Can relieve nausea and vomiting often associated with vertigo.*
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□ Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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See facing page for brief summary of prescribing information.

J-4889-9

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Alpha-hemolytic streptococci (viridans group): Short-term prophylaxis against bacterial endocarditis prior to dental or other operative procedures in patients with a history of rheumatic fever or congenital heart disease who are hypersensitive to penicillin. (Erythromycin is not suitable prior to genitourinary surgery where the organisms likely to lead to bacteremia are gram-negative bacilli or the enterococcus group of streptococci.)
Staphylococcus aureus: Acute infections of skin and soft tissue of mild to moderate severity. Resistance may develop during treatment.
Diplococcus pneumoniae: Upper respiratory-tract infections (e.g., otitis media, pharyngitis) and lower respiratory-tract infections (e.g., pneumonia) of mild to moderate degree.
Mycoplasma pneumoniae (Eaton agent, PPLO): In the treatment of primary atypical pneumonia, when due to this organism.
Treponema pallidum: Infections due to this organism.
Corynebacterium diphtheriae and *Corynebacterium minutissimum:* As an adjunct to antitoxin, to prevent establishment of carriers, and to eradicate the organism in carriers. In the treatment of erythrasma.
Entamoeba histolytica: In the treatment of intestinal amebiasis only. Extra-enteric amebiasis requires treatment with other agents.
Listeria monocytogenes: Infections due to this organism.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when indicated.

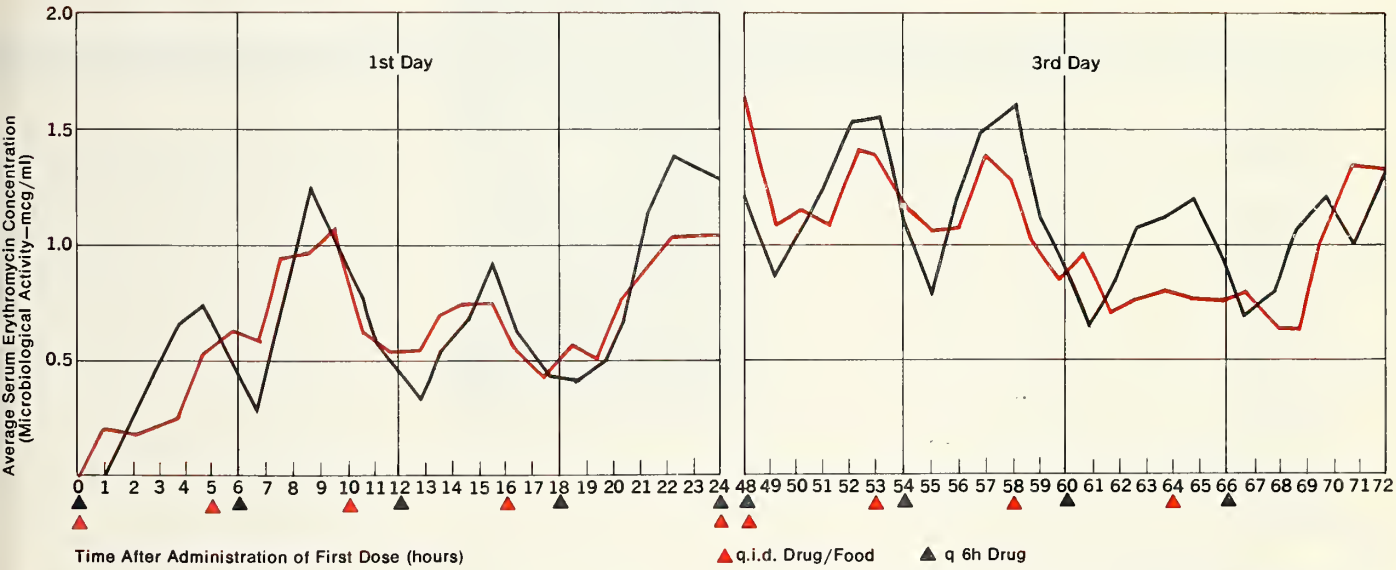
Adverse reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy, there is a possibility of overgrowth of non-susceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Treatment of overdosage: The drug is virtually nontoxic, though some individuals may exhibit gastric intolerance to even therapeutic amounts. Allergic reactions associated with acute overdosage should be handled in the usual manner—that is, by the administration of adrenalin, corticosteroids, and antihistamines as indicated and the prompt elimination of unabsorbed drug, in addition to all needed supportive measures.

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Opinion & Dialogue

Should a specially prepared package insert be made available to patients?



Dr. Alexander M. Schmidt
Commissioner,
Food and Drug
Administration



Dr. James H. Sammons
Executive Vice President
of the American
Medical Association

The idea of a so-called patient package insert has been around for a long time. Many physicians already use written instruction sheets to provide patients with information about the drugs they are taking. And some physicians give verbal instructions; but in too many instances these are what I call eye-glazing exercises. I have seen patients sit with glazed eyes listening to a rapid-fire lecture by a hurried physician who has 20 people out in his waiting room. These patients aren't given sufficient understanding and therefore do not follow instructions. So I think the idea of an official package insert for patients is a good one. Perhaps we should really think of this kind of information simply as an extension of drug labeling.

The benefits of patient involvement

Many physicians may not realize how frequently a patient obtains his drug information from Aunt Tillie or the next door neighbor. And this information is almost always bad or irrelevant to the case at hand. Furthermore, the incentive to go along with a prescribed program is slim if the only reading matter the patient receives, along with his prescription, is a bill.

As an educator I am impressed by the principle that the best way to get someone to do something is to involve him in the process. So the

I think there are advantages as well as some real disadvantages in a patient package insert. When you begin to use semi-medical or medical terms to describe complications or possible sequelae of disease or treatment, you may frighten the patient—particularly since the more highly sophisticated patient is not the one who is going to read the insert. The patient who will read it is the one most susceptible to fright and confusion by the language.

On the positive side, a package insert will probably give the patient better insight into why he is being treated the way he is, and it may give the physician a little bit more time. But it does not remove from the physician the need or obligation to explain the insert.

Some pitfalls in the inclusion of side effects

Certainly a patient should be warned of the possibility of serious side reactions—to know what the real dangers are. But it doesn't do a bit of good to indicate that a patient on oral penicillin may develop a rash, itching, or a drop in blood pressure. Or that he may faint. I think the real danger is that fright engendered by the insert may possibly outweigh the potential good.

ain purpose of drug information r the patient is to get his coopera- on in following a drug regimen.

reparation and distribution of atient drug information

We would hope to amass infor- ation from physicians, medical cieties, the pharmaceutical indus- y and centers of medical learning. he ultimate responsibility for uni- rm labeling must, however, rest ith the Food and Drug Administra- on. There is nothing wrong with is agency saying, "this informa- n is generally agreed upon and erefore it should be used," as long our process for getting the infor- ation is sound.

Distribution of the information a problem. In great measure it ould depend on the medication in uestion. For example, in the case an injectable long-acting proges- rone, we would think it mandatory issue two separate leaflets—a ort one for the patient to read be- re getting the first shot and a long e to take home in order to make a ecision about continuing therapy. this case, the information might e put directly on the package and ot removable at all. But for a medi- ation like an antihistamine this formation might be issued sepa- tely, thus giving the physician the ption of distribution. This could reserve the placebo use, etc.

It is in the distribution of patient information that the pharmacist may get involved. As professionals and members of the health-care team and as a most important source of drug information to patients, pharmacists should be responsible for keeping medical and drug records on patients. It is also logical that they should distribute drug information to them.

Realistic problems must be considered

We have to expect that the introduction of an information device will also create new problems. First, how can we communicate complex and sophisticated information to people of widely divergent socio-economic and ethnic groups? Second, what will we say? And third, how can we counteract the negative attitude of many physicians toward any outside influence or input? Hopefully the medical profession will respond by anticipating the problems and helping to solve them. Assuming we can also solve the difficulty of communicating information to diverse groups throughout the United States, our remaining task will be the inclusion of appropriate material.

What information is appropriate?

In my opinion, technical, chemical and such types of material should not be included. And there is no point in the routine listing of side effects like nausea and vomiting which seem to apply to practically all drugs, unless it is common with the drug. However, serious side effects should be listed, as should information about a medication that is potentially risky for other reasons.

Other pertinent information might consist of drug interactions, the need for laboratory follow-up, and special storage requirements. What we want to include is information that will help increase patient compliance with the therapy.

Positive aspects of patient drug information

Labeling medication for the patient would accomplish a number of good things: the patient could be on the lookout for possible serious side effects; his compliance would increase through greater understanding; the physician would be a better source of information since he would be freer to use his time more effectively; other members of the health-care team would benefit through patient understanding and cooperation; and, finally, the physician-patient relationship would probably be enhanced by the greater understanding on the part of the patient of what the physician is doing for him.

nly the doctor can remove that fear y 20 or 30 minutes of conversation.

I'm not suggesting that we ithhold any information from the atient because, first of all, it would e totally dishonest and secondly, it ould defeat the very purpose of the nsert. I do think that a patient on the irth control pill should know about he incidence of phlebothrombosis.

If you're going to tell a patient he incidence of serious adverse re- ctions, then you have to tell him hat a concerned medical decision as made to use a particular medi- ation in his situation after careful onsideration of the incidence of omplications or side effects.

motionally unstable patients pose special problem

There are patients who, be- ause of severe emotional problems, ould not handle the information ontained in a patient package in- ert. Yet if we are going to have a ackage insert at all, we just can't ave two inserts. I think we might imply have to tell the families of hese patients to remove the insert rom the package.

egal implications of the patient ackage insert

Just what effect would a patient package insert have on malpractice? We could try to avoid any legal implications by pointing out that the physician has selected a particular medication because, in his professional judgment, it is the treatment of choice. For instance, you can't tell everyone taking antihistamines not to work just because a few patients develop extreme drowsiness which can lead to accidents. And what about the very small incidence of aplastic anemia rarely associated with chloramphenicol? If, based on sensitivity studies and other criteria, we decide to employ this particular antibiotic, we do so in full knowledge of this serious potential side effect. It's not a simple problem.

How do we handle an insert for medication used for a placebo effect?

With rare exceptions, physicians no longer use medications for a placebo effect. This question does raise the issue of how a patient may react to receiving a medication without a package insert.

Preparation of the package insert

The development of the insert ought to be a joint operation between physicians, the pharmaceutical industry, the A.M.A. and the F.D.A.

I view the A.M.A.'s role as a coordinator or catalyst. It is the only organization through which the profession as a whole, irrespective of specialty, can speak. It has relatively instant access to all the medical expertise in this country. And it can bring that professional expertise together to ensure a better package insert. The A.M.A. can work in conjunction with the industry that has produced the product and which is ultimately going to supply the insert.

I don't think we should rely, or expect to rely, on legislative committees and their nonprofessional staffs to make these decisions when it is perfectly within the power of the two groups to resolve the issues in the very best American tradition—without the government forcing us to do it. I think the F.D.A. has to be involved, but I'd like them to become involved because they were asked to become involved.

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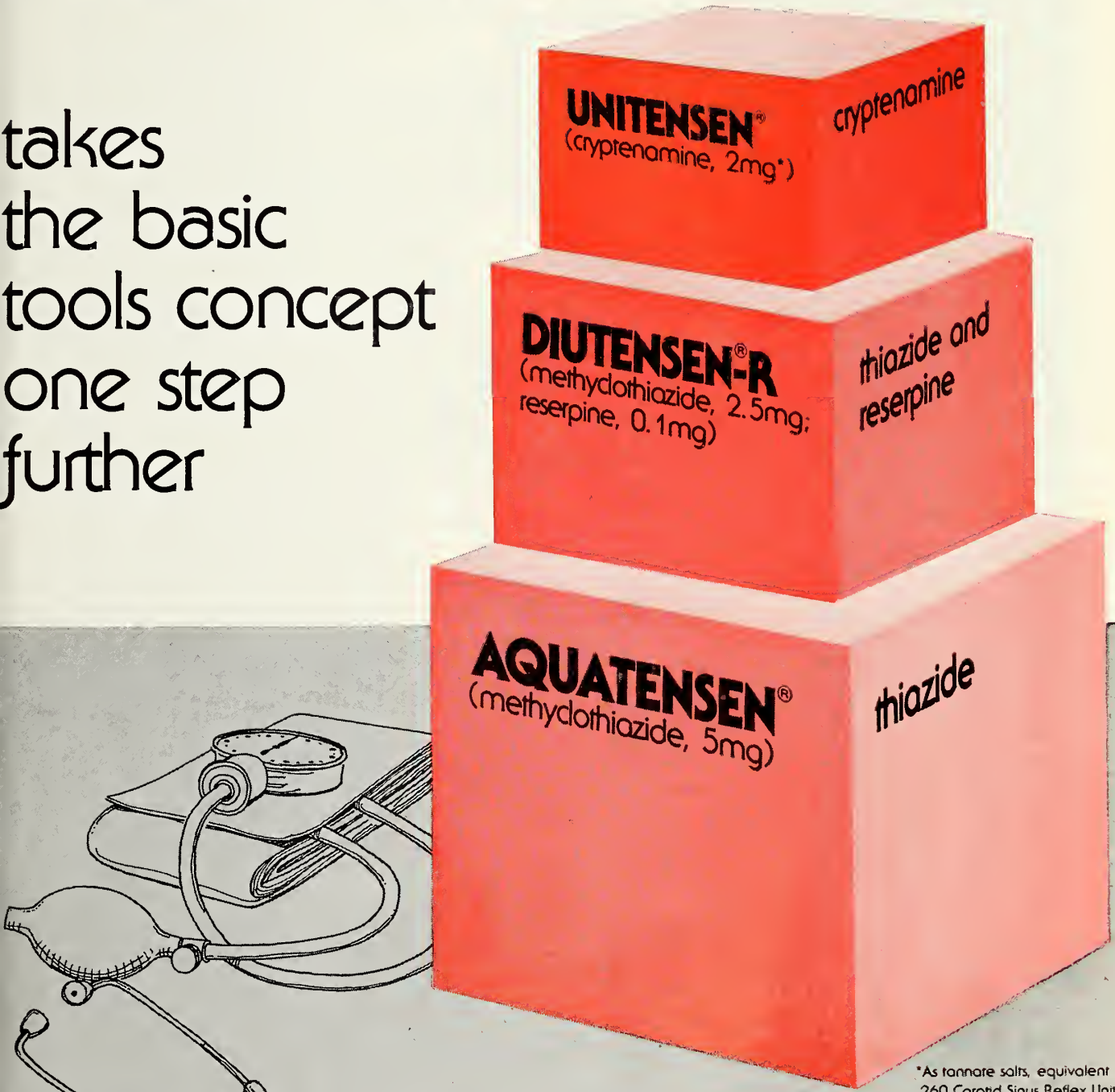


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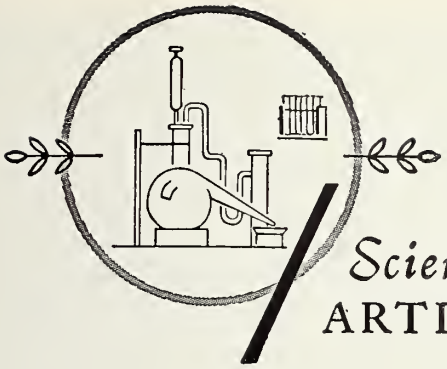
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Sicca Syndrome

Treatment

RICHARD ADAIR, M.D., ANTHONY FALBO, M.D., *and* KARL SCHERIBEL, M.D., *Leavenworth*

SJÖGREN'S SYNDROME and its variant, the sicca syndrome (dry eyes and dry mouth, without arthritis) do not usually respond to corticosteroid treatment.[1-3] We recently encountered a patient who developed sarcoidosis and the sicca syndrome at the same time, and obtained prompt relief from prednisone.

Case Report

A 40-year-old black woman was first seen because of facial swelling, dryness of the eyes and mouth, and skin rash.

She had been well except for hypertension during each pregnancy. Six months previously, she had visited a physician because of dryness and stinging of the eyes. Her blood pressure then was 200/130, and a thorough evaluation showed no renal or endocrine cause for hypertension. She was given hydrochlorothiazide and triamterene. About one month later she developed transient bilateral parotid enlargement. Her medication was discontinued, but when parotid swelling subsided it was resumed, with alpha methyldopa, without apparent ill effect. She felt well for three months, until bilateral parotid swelling recurred, with skin rash and marked dryness of the eyes, mouth and nose, which was so severe that she was unable to sleep.

A physical examination revealed the following results: blood pressure, 160/98; temperature, 99F (37.3C); both parotid glands (especially the right) were firm, nontender, and moderately enlarged; nasal and oropharyngeal mucosa looked red and dry, and there was no saliva. Slit-lamp examination with fluorescein showed bilateral punctate keratopathy. Schirmer test showed no tear production in either eye. The chest was clear. There was no lymphadenopathy or hepatosplenomegaly. Raised, firm, and tender erythematous nodules up to 2 cm in diameter were present on both legs, with a few similar but smaller lesions on the arms. A biopsy of one of the leg nodules showed multiple granulomata with giant cells, but no caseation *(Figure 1)*. The results of the stains for acid-fast bacilli and a tuberculin skin test were negative. Fluorescent antinuclear antibody (ANA) titer was 1:90 with a nucleolar staining pattern. The results of the latex fixation test and VDRL were both negative. The following laboratory results were obtained: white blood count (WBC) and differential were normal; hematocrit, 33%; hemoglobin, 10.9 gm/100; reticulocytes, 2.2%. The results of a sickle cell test, Coombs' test, and GPD screen were negative. Serum protein electrophoresis showed hypergammaglobulinemia. The results of the liver function tests,

A case report of sicca syndrome is presented, and literature is reviewed.

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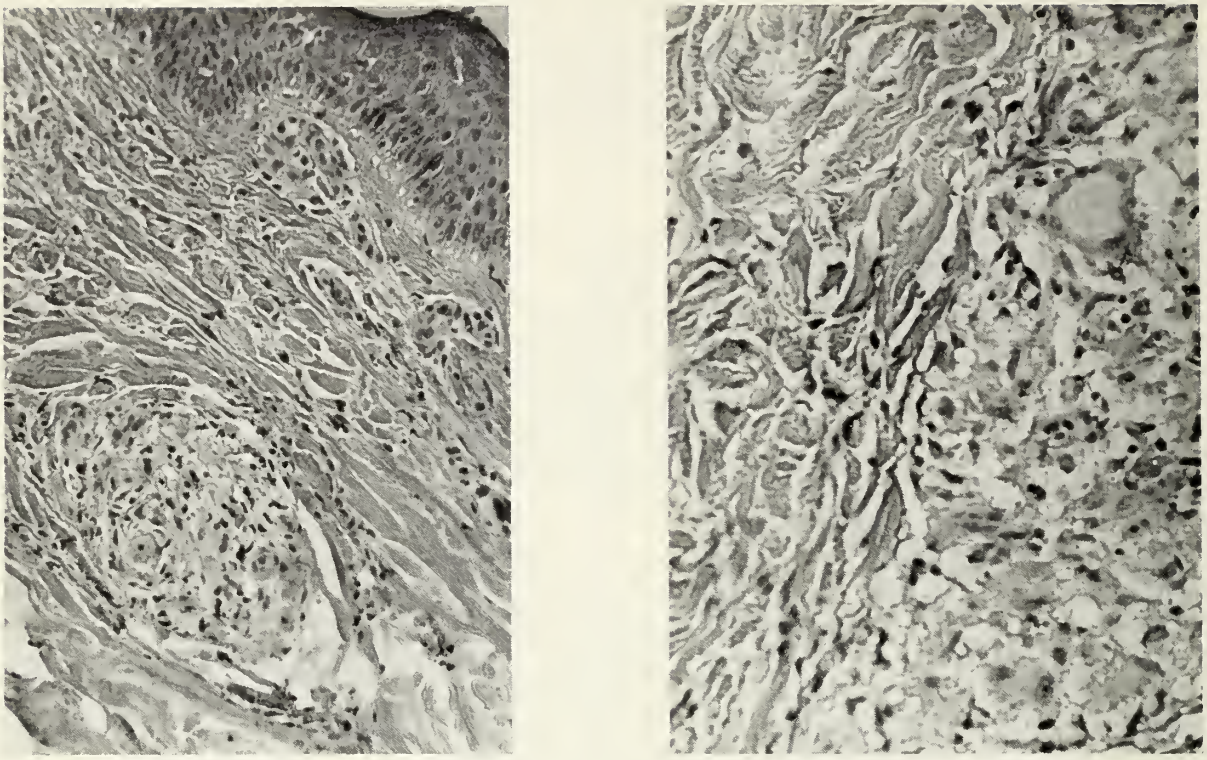


Figure 1. (a) Punch biopsy of leg lesion, showing noncaseating granulomata; (b) A multinucleated giant cell under higher magnification.

serum calcium, chest x-ray, arterial blood gases, vital capacity, and expiratory flow rates were normal.

The patient was treated with artificial tears, sour balls, and saline nasal irrigations for two weeks, with little relief. Parotid enlargement and marked discomfort in the eyes, mouth, and nose persisted *(Figure 2)*. When the skin biopsy results showed sarcoid-like granulomata, prednisone 40 mg daily was administered. Within three days, she reported improvement in facial swelling and sicca symptoms. One month later, her physical examination results were completely normal, except for fading skin lesions, including both parotid glands *(Figure 3)*. The prednisone dose was gradually reduced. Three months later, Schirmer test results were normal on the left, and improved but still clearly abnormal on the right (2 mm wetting in 2 minutes). The patient improved, and denied any dryness of mouth or eyes, except for an occasional stinging sensation in the right eye.



Figure 2. The patient before prednisone treatment.

Discussion

Although both sarcoidosis and Sjögren's syndrome involve the lacrimal and salivary glands, coexistence of these conditions is uncommon.[4-11] Keratoconjunctivitis sicca occurred in only two of a series of 388 patients with sarcoidosis,[10] and sarcoidosis was present in only 2 of 171 patients with Sjögren's syndrome.[11] A review of



Figure 3. The same patient after the treatment.

literature on the subject produced only four cases with both disorders in which corticosteroid treatment had been tried.[6-9] An excellent clinical response was reported in each of these.

Several reviews of management of Sjögren's syndrome agree that corticosteroids may shrink enlarged salivary and lacrimal glands, but do not increase secretion rate or alleviate sicca symptoms.[1-3] Our experience and the reviewed literature suggest there is a small group of corticosteroid-responsive patients within the spectrum of Sjögren's syndrome. A search for features of sarcoidosis may help to identify patients who should be given trial corticosteroid therapy.

Summary

A patient with the sicca syndrome also had cutaneous sarcoidosis and, unlike most patients with Sjögren's syndrome, improved with corticosteroid therapy. Literature about similar cases has been reviewed.

Acknowledgement

William McPhee, M.D., prepared the photomicrographs, and Robert Porter, M.D. and Dan Weaver, M.D., did followup examinations.

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Tetracyclines

Adverse Effects

F. BRUDER STAPLETON, M.D., ***Kansas City, Kansas***

TETRACYCLINE ANTIBIOTICS were commonly prescribed by pediatricians following the introduction of chlortetracycline in 1948, oxytetracycline in 1950, and tetracycline in 1952. The first observation of a relationship between tetracycline administration and subsequent tooth discoloration was noted by Schwachman and Schuster,[1] in 1956. In April 1963, the U.S. Food and Drug Administration officially recognized a positive correlation between tooth discoloration and tetracycline administration in early childhood.[2] Manufacturers were thereafter required to label tetracycline with the following warning:

> The use of drugs of the tetracycline class during tooth development (last half of pregnancy, infancy, and childhood to 8 years) may cause permanent discoloration of the teeth (yellow-gray-brown). This adverse reaction is more common during long-term use of the drugs, but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported. Tetracycline drugs, therefore, should not be used in this age group unless other drugs are not likely to be effective or are contraindicated (package insert).

Eleven years have elapsed since the initial issuance of this warning. The frequency of administration of tetracyclines in young children is difficult to determine at this time. However, a brief observation at a teaching hospital suggested that tetracyclines are not infrequently given to young children in our community. The purposes of this report are to reemphasize the side effects of tetracyclines and to avoid, when possible, the use of this drug in a growing child.

Results and Discussion

During a five-month period, children under 8 years of age admitted to the University of Kansas Medical Center were evaluated for their history of recent medications. Five children were found to have received a tetracycline preparation within one week prior to the admission. The tetracycline preparations and indication for their use are summarized in *Table 1.* All five patients were children under 2 years of age. Multiple preparations of tetracycline had been used. In none of the patients was an organism isolated which required tetracycline as the preferred antimicrobial agent. Some patients *(Cases 4 and 5)* have received multiple courses of tetracycline therapy. It is important to note that each patient was referred by a different physician. Such findings suggest that the prescription of tetracyclines for young children is not an isolated phenomenon in this community. Evaluation of these five children revealed no clinically apparent discoloration of the teeth and no apparent effect on the skeletal structures.

The side effects of tetracycline therapy in growing children are emphasized.

The proof that tetracyclines resulted in yellow, brown, or gray-brown discoloration of children's teeth was published by Wallman and Hilton,[3] in 1962. They found that tetracycline administration in the neonatal period resulted in dental pigmentation in 46 of 50 babies. Tetracycline deposition in both enamel and dentine was demonstrated by ultraviolet spectrometry. Discoloration of teeth appears to result from the avidity of tetracycline for calcium cations.[4] At physiologic pH, tetracyclines form calcium-tetracycline complexes. Thus, human teeth (excluding the third molar) are susceptible to tetracycline staining from the initiation of calcification at the end of the fourth month of intrauterine life until the age of 8 years.

As mentioned, tetracycline-stained teeth may be yellow, brown, or gray-brown. The yellow discoloration may be difficult to notice clinically, but produces a golden-yellow fluorescence under ultraviolet light. As the yellow color turns to brown, the teeth lose this fluorescence. Gray-brown teeth do not fluoresce. A pattern of discoloration has been demonstrated for individual drugs. Chlortetracycline produces a gray-brown color, while tetracycline, oxytetracycline, and demethyltetracycline result in varying shades of yellow.[5] The degree of staining is greater with prolonged or multiple courses, and with high doses of tetracyclines.[3, 6]

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TABLE I

PEDIATRIC PATIENTS REFERRED TO KUMC IN AUGUST-DECEMBER 1974, WHO RECEIVED TETRACYCLINE PRIOR TO REFERRAL

Case	*Age*	*Drugs*	*Primary Diagnosis*
1.	1 yr.	Chlortetracycline caps.	Interstitial pneumonia
2.	3 mo.	Tetracycline susp.	Cervical adenitis
3.	2 yr.	Tetracycline susp.	Upper respiratory infection
4.	21 mo.	a. Minocycline syrup	Upper respiratory infection
		b. Methocycline syrup	Gastroenteritis
5.	8 mo.	Tetracycline susp.	Upper respiratory infection

The chelating properties of tetracyclines also produce changes in growing bone. Cohlan, *et al.*,[7] found a definite decrease in fibular growth in premature infants receiving tetracyclines in therapeutic doses. This effect was reversible following the cessation of therapy. Bevelander, *et al.*,[8] produced pronounced skeletal growth retardation and malformed bones in chick embryos and mice given tetracycline. Both human and animal bones show brilliant fluorescence following tetracycline administration with particular intensity in the areas of maximal growth.[3]

Additional adverse and toxic effects of tetracyclines are listed in *Table II*. Most are infrequent and not peculiar to childhood. Pseudotumor cerebri associated with tetracycline use, however, was first reported in two children, both under 6 months of age.[9]

The indications for tetracycline administration in the pediatric patient are extremely limited. Their usage is never indicated in the therapy of upper respiratory infections or pneumonia. Tetracyclines may be indicated in the rare rickettsial disease, psittacosis, cholera, Yersinia, or brucellosis. However, alternative antibiotics are available for all these infections.

TABLE II

ADVERSE AND TOXIC EFFECTS ASSOCIATED WITH TETRACYCLINE ADMINISTRATION

Tooth discoloration	Myasthenia syndrome
Enamel hypoplasia	Hepatotoxicity
Photosensitivity	Esophagitis
Fanconi syndrome	Nephrotoxicity
Pseudomembranous colitis	Optic neuropathy
Metabolic acidosis	Pancreatitis
Growth disturbance	Myocarditis
Bone marrow hypoplasia	Psuedotumor cerebri
Lupus syndrome	Stomatitis
Gastrointestinal irritation	Thrombophlebitis
Exfoliative dermatitis	Hemolytic anemia
Depression of plasma	Thrombocytopenia
Prothrombin activity	Pericarditis

It was suggested recently that a tetracycline preparation, minocycline, may be used for the prophylaxis of Neisseria meningitides meningitis among close contacts.[10] Munford, *et al.*, found that a three-day course of a combination of minocycline and rifampin was superior to other regimens in eradicating N. meningitides carriage.[11] However, further studies are needed to confirm this report before it is accepted for general use.

Summary

Tetracyclines have little place in the practice of pediatrics. Attractive pediatric tetracycline preparations, however, continue to be manufactured and marketed. It is apparent from this report that despite well-known toxicities, tetracyclines continue to be prescribed for children. In order to avoid the damage associated with tetracycline and other drugs, it seems that continuing efforts are needed to disseminate information concerning the proper use of antibiotics in growing children.

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(Continued on page 26)

Temporal Lobe Dysfunction

A Case Report

DONALD J. CURRAN, D.O., S. NAGASWAMI, M.D., *and* K. J. MOHAN, M.D., *Topeka*

TEMPORAL LOBE DYSFUNCTION is interesting from a neurological as well as a psychiatric standpoint. Many cases of such dysfunctions may fall into a vague and often intangible area, where neurologists and psychiatrists disagree about the cause, nomenclature, and manifestations of temporal lobe dysfunction. Such medical issues remind us of our lack of concrete knowledge, which may someday be resolved, aiding our complete integration of the mind and body dilemma. Thus, our case presentation offers some interesting clinical material which prompts us to speculate even more about neuropsychiatric borderlands.

A 23-year-old white male, while in combat in Vietnam, sustained a grenade fragment injury with penetrating injury to the left malar eminence, superficial injury to the upper thighs and left knee, and other lesser cutaneous fragment injuries. After admission to an overseas military hospital, appropriate surgical and medical procedures were applied. Skull x-rays revealed a metal fragment within the cerebral substance. During a subsequent hospitalization in the United States, the patient was diagnosed as having right third nerve impairment, organic brain syndrome secondary to grenade fragment cerebral injury, and anxiety neurosis secondary to the organic brain syndrome. Several months later, the patient was admitted to the Topeka Veteran's Administration Hospital.

At the time of admission, the patient complained of headache and memory loss. He had been bothered by sharp, bilateral frontal, constant cephalgia for six months, which was relieved somewhat by icepacks and aspirin. The memory loss was described by the patient and his admitting physician as inability to remember recent events, difficulty remembering multiple items of information, and integrating those items into effective understanding and action.

The case presented demonstrates a complete neurological examination with diagnosis of left temporal lobe dysfunction. Neuropsychiatric borderlands are approached, and an organic basis for psychiatric, descriptive diagnosis is suggested.

A physical examination established the patient to be a young, healthy, adult male in no acute distress. He was alert, oriented, and cooperative throughout his evaluation. Significant findings at admission were: left hearing deficit for high, mid, and lower tones; ptosis of the left eyelid; minimal weakness of the left medial rectus muscle, and left pupil dilatation; and an inappropriate euphoria and garrulity.

A complete neurological evaluation disclosed the following results: skull x-rays revealed a cerebral substance foreign body; electroencephalogram revealed low voltage 10 cycle/second occipital alpha rhythm. Throughout this waking and drowsy recording, there were persistent 1½ to 4 cycle/second medium voltage slow waves arising from the left anterior temporal-left temporal region *(Figure 1)*. No specific paroxysmal discharges were noted. Hyperventilation and photic stimulation provoked no additional abnormalities. The echoencephalogram and brain scans were reported as normal. Pneumoencephalography revealed the following: a metallic foreign body, measuring 5 mm at the greatest diameter, lodged within the right caudate nucleus *(Figures 2 and 4)*; deviation of the third ventricle from right to left for approximately 2 mm *(Figure 3)*; and normal lateral ventricles, except for the left temporal horn which was definitely dilated *(Figure 2)*. Deviation of the third ventricle may be related to some scarring or atrophy on its left side secondary to the track of the foreign body *(Arrow, Figure 2)*. Other phenomena related to the path of the foreign body are shearing of the left third cranial nerve, which resulted in the abnormal physical findings listed above, and the shearing or puncturing of the left temporal lobe, which resulted in the observed left temporal horn dilation *(Figure 2)*. This dilation is consistent with the atrophy in the region of the left temporal area.

Routine neuropsychological testing included the following tests: lateral dominance examination, perceptual disorders examination, Halstead categories testing, the wide range achievement test, and a Weschler adult intelligence scale. These examinations revealed that the patient was functioning at an average level of intelligence, with test performance falling within the mildly impaired range for higher mental functions. The results were consistent with the presence of brain dysfunction.

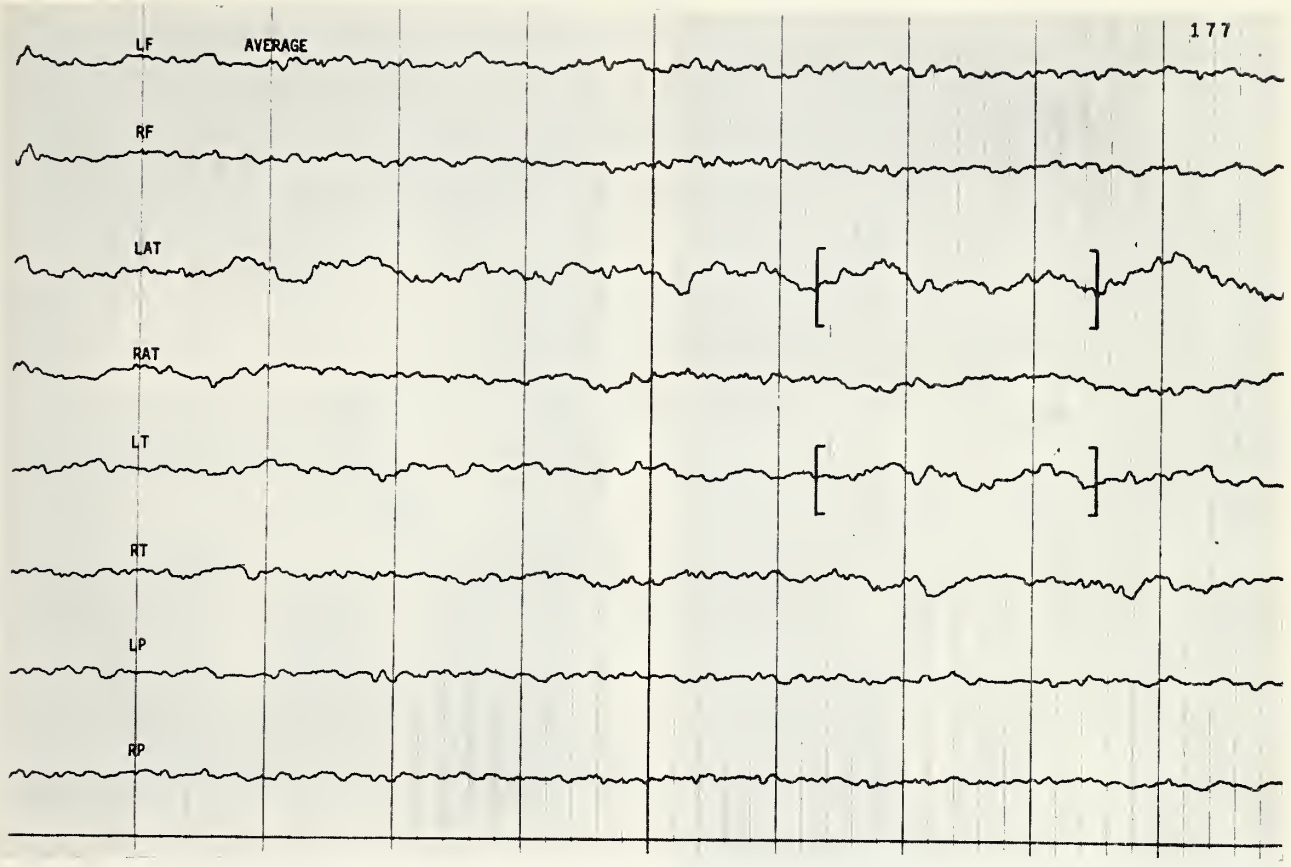


Figure 1. Note the 1½-4 cycle/second medium voltage slow waves arising from the left anterior temporal—left temporal lobe area (in brackets).

With regard to differential functioning of the cerebral hemispheres, there was evidence to suggest that the left hemisphere could be functioning somewhat less efficiently than the right hemisphere. Overall, the test evidence suggested the presence of a mild static lesion.

A social history, gathered from the patient's mother, revealed this young man to be friendly and outgoing throughout normal development and his school years. Since his return from the service, the patient's mother had noticed him to be forgetful of important recent events, and that when reprimanded about his forgetfulness, he would become depressed and leave home. Other comments were related to the patient's moodiness, episodes of pacing about, and periods of despair. At one point the mother said the patient's verbalizations were of suicidal ideation.

The above data are indicative of an organic brain syndrome manifested specifically as recent memory loss due to temporal lobe damage, and possibly manifested as inappropriate mood fluctuations. These latter proposed manifestations bespeak of a psychiatric diagnosis (*i.e.,* anxiety neurosis). However, even with our present knowledge of brain anatomy and physiology, we are only able to speculate about documented brain damage and its subsequent correlative relationships to emotional illness. Such discussions remind us of the neuropsychiatric borderlands as mentioned above. In the same light, we are also reminded that temporal lobe dysfunction relates to limbic system dysfunction.

What is the limbic system? Most of the gray matter of the neurocortex is concerned with the external world, its spatial properties and directionality. In striking contrast, the so-called limbic system (emotional brain) is concerned with the self. It controls the changes between the body and the external world; through its command over the autonomic and endocrine systems it regulates the internal world. In achieving these ends, the limbic system serves as a repository for phylogenetically significant and distinctual behaviors. From this organization and structure come specific activities, such as feeding, flight, fight, and sexual behavior. Other functions of the limbic system include instinctual aggression, grooming, temperature regulation, and maternal responses.

The fundamental difference between the limbic system functions and the cortical structure is that limbic system stimulation produces composite, goal-directed motivational behavior, whereas electrical stimulation of



Figure 2. Note fragment lodged within right caudate lobe while arrow shows path of entry originating from left malar eminence. Also note left temporal horn dilation (dark area within left orbit).

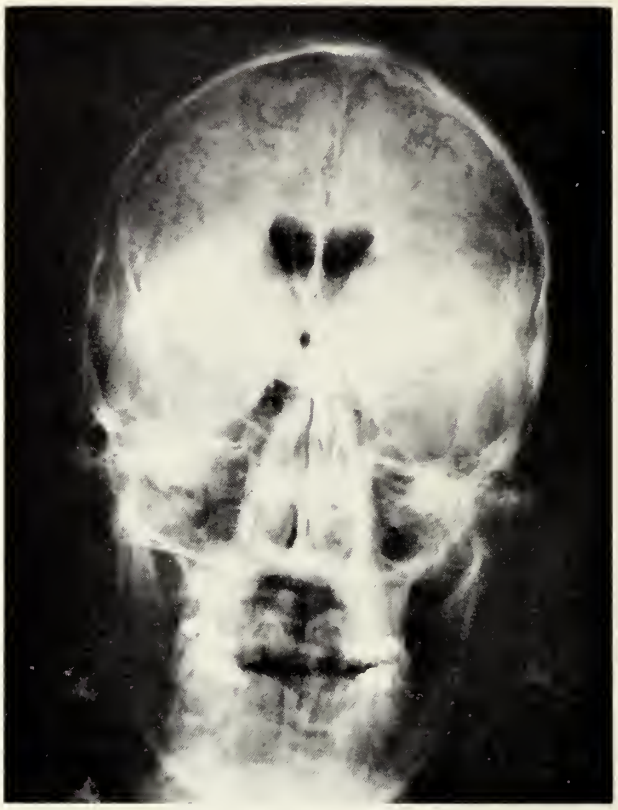


Figure 3. Note deviation of the third ventricle (dark spot between orbits) from right to left.

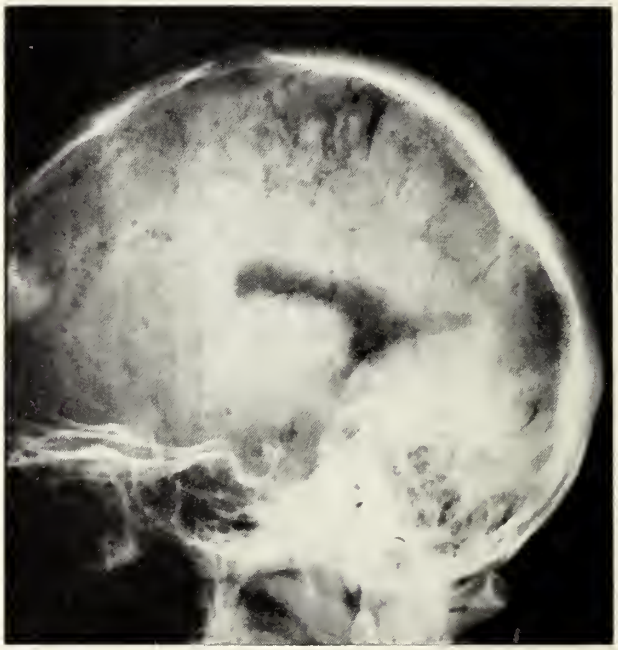


Figure 4. The lateral view of the pneumoencephalogram shows the fragment well within the caudate lobe.

the neocortical structures produces fragmented non-motivational activities. Structures which can be included in the limbic system (limbic brain) include the upper part of the brain stem, piriform cortex, philamers, angular gyrus, basal ganglia, septal nuclei, orbito-frontal lobe, mid brain, and finally the temporal lobe structures which include the temporal lobe cortex, amygdaloid nucleus, and dentate gyrus. Therefore, temporal lobe dysfunction implies limbic brain dysfunction.

For the purposes of our discussion, we wish to make it clear that the hippocampus (an anatomical aspect of the temporal lobe) is clearly involved in recent memory storage. In fact, fixation of memory for current events is impossible if the hippocampi are removed. We also wish to speculate in the above described case that post-traumatic temporal lobe dysfunction implies limbic system dysfunction. Therefore, it may be that the descriptive psychiatric diagnosis—anxiety neurosis—and its manifestations are couched in limbic system dysfunction. Although this is mere speculation at present, we wish to emphasize our strong belief that the prevalent mysteries of many psychiatric disorders will eventually be clarified with increased scientific knowledge in the neurobehavioral sciences.

100% by '76

Crawford County PAP Smear Clinic

KENNETH P. ZABEL, M.D., ***Pittsburg***

THE PURPOSE of the PAP smear clinic conducted by the Crawford County Cancer Society during 1974, was to make the PAP smear test available to all women between the ages of 18-80. This is in keeping with the objective of the American Cancer Society: "Every woman a PAP smear by 1976." To quote from the project's manual of the American Cancer Society, "The PAP test must be made accessible to all women in the target groups. There must be convenient facilities where women, especially those in the low-income groups, can go to have the PAP test."

Statistics of the Kansas Chapter have consistently shown that southeast Kansas in general, and Crawford County in particular, are at or near the top of deaths annually attributed to cancer. Furthermore, in the period October 1969 through December 1973, a family planning clinic held weekly in Crawford County administered some 3,300 PAP smears to an age group of women in their reproductive years. Of these, 16 women were found to have carcinoma in situ, 1 with invasive cancer of the cervix.

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A survey was conducted by members of the Crawford County Cancer Society at the county fair held in July 1973, at which time 576 women voluntarily completed the questionnaire. It was found that only 50 per cent of these women were having the PAP smear test done annually. The reasons for the other 50 per cent of the women not receiving the test regularly were not apparent. However, it was clear that they would avail themselves of the opportunity if it were "provided at low or no cost."

A review of the purpose, conduct, and results of a PAP smear clinic is presented, in which 1,019 women participated.

The Clinic

Following eight months of planning and preparation by the Crawford County Cancer Society, the clinic was held in the Mt. Carmel Hospital. Volunteer physicians supervised the examinations, which were performed by nursing students of the Kansas State College School of

TABLE I
PAP SMEAR CLINIC DATA

	Age						
	23-30	31-40	41-50	51-60	61-70	OVER 70	*Totals*
Class I	155	114	144	191	150	79	833
Class II	8	13	16	44	54	36	171
Class III		3				3	6
Totals	163	130	160	235	204	118	1,010
First PAP	32	15	29	38	55	47	216
Under 1 year	60	37	55	61	52	18	283
2 years	48	27	41	58	39	20	233
3-4 years	21	25	22	44	31	14	157
5-10 years	3	15	11	25	22	14	90
Over 10 years	1	0	3	7	6	5	22
Pelvic path.	60	27	46	48	39	19	239
Infectious process	25	31	24	36	42	25	183
Ref. for pelvic	4	3	2	7	11	2	29
Abnormal breast	4	5	8	3	9	8	37

Number of women screened for gonorrhea (under age 60)—666
Number of women with positive culture—1

Nursing. More than 320 lay volunteers were also involved in the project.

As the women waited for the examination, they watched films provided by the American Cancer Society. The films contained preventive aspects of care about cancer of the breast and cervix. Each woman was given the opportunity to be instructed in the breast self-examination technique. This was purely voluntary. Any abnormal finding was referred to the attending physician, who then made the decision as to whether or not further examination by a physician of the patient's choosing was indicated.

The vaginal examination and PAP smear test were done by a senior nursing student who had previous training in a family planning clinic or a physician's private office. Each cervix was visually examined by the attending physician. A culture was also done for gonorrhea on patients under 60 years of age.

Results

Of the 1,019 who had PAP smears, there were 1,010 acceptable slides for cytology. The results are summarized in *Table I.*

The 171 women with Class II, and 6 with Class III PAP smear results were followed up six months later, either by mail, telephone, or personal contact. The results of the followup and the questions asked are seen in *Table II.* Followup at six months was available on 149 of 167 women; the remaining 18 were unavailable for followup. Eight women were hospitalized for surgical procedures. The pathology reports were as follows:

TABLE II

Chronic cervicitis	2
Endocervical polyps with metaplasia	2
Cystadenoma of ovary	1
Severe dysplasia with premalignant changes	1
Recurrent epidermoid cervical cancer	1
Epidermoid cancer of cervix with invasion of vagina	1

Of the 1,019 women screened, 216 (about 22%) had never before had a PAP smear. Almost one half of these were over 60 years of age. The primary objective of attracting women who had not previously been having regular PAP smears was evidently successful, because only 283 women (about 29%) had received a smear within the past 12 months.

Twenty-seven women were referred for an abnormal breast finding. Twenty-five returned followup questionnaires. Six women had biopsies, and one (age 78 years) had a mastectomy for carcinoma.

Of the 666 women under the age of 60 with gonorrhea cultures only one was positive. This is far below the incidence of positive results from random cultures throughout Kansas. The reasons for this are not apparent at this time. A logical, if not valid conclusion, would be that the sample population was unusually moral.

Discussion

The primary objective of the clinic was to reach women not receiving yearly PAP smears. The survey indicated that 20 per cent of the women in Crawford County had never received a PAP smear. The clinic statistics showed that 22 per cent were receiving a PAP smear for the first time, and that 79 per cent had not had a PAP smear in the preceding 12 months.

The reasons women list for not having regular examinations are endless. By means of the clinic, it was hoped to remove the omissions attributed to fear, cost, and inconvenience. The pre-clinic publicity was extensive, and doubtless many women were motivated to see their private physician. Obviously, the success of the clinic cannot, and should not be evaluated only in terms of how many malignancies were discovered. Whether or not this endeavor has been successful can only be determined by watching the statistics over the next several years. However, one point is clear. The people of Crawford County conceived, planned, and executed a project involving over 400 lay people and professional volunteers. The project was born in a sense of concern; it was planned with precision and attention to the smallest detail; and it was conducted with dedication. The participants have demonstrated to the rest of the state their concern, and they have challenged others to do their part, so that "every woman have a PAP smear by 1976."

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Patients Rate Hospitalization

How Patients Perceive Treatment Programs In a Mental Hospital

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ORGANIZATIONAL THEORISTS have always been concerned that institution-oriented systems of administration, in contrast to consumer-oriented systems, are too frequently in conflict.[1, 2] The smooth and efficient operation of an organization may require considerable indifference or lack of response to the needs of consumers. At times, in fact, consumer needs may directly interfere with organizational functions. Applying organizational theory to a mental hospital situation, it has been postulated that a patient-oriented hospital system should have optimal therapeutic results.[3]

Many mental hospitals concerned with improving treatment programs have instituted federally supported Hospital Improvement Programs. Such programs are broadly designed to provide a common interdisciplinary staff training program with specific components, which move toward a patient-centered resource program. Attempts to evaluate the effectiveness of such treatment programs, however, tend to measure the quality of performance of mental health professionals with relatively little or no concern for the opinions of patients.

At Osawatomie State Hospital, an attempt has been made to reverse the trend and assess treatment from the patient's point of view. Since patient participation in a patient-oriented therapeutic program is essential, it would seem that an assessment of the patient's perception of the program is in order. Meaningfulness of programs has been measured in terms of the satisfaction of patients as reported by them. It is recognized, of course, that patient satisfaction alone may have little to do with the specific aspects of a patient-centered program, because of the multitude of interacting factors. Therefore, the results of this study are viewed as suggestive rather than conclusive.

Patients from all areas of the hospital, except the medical-surgical unit, were asked to fill out a questionnaire form. Forms were returned from 48 per cent of the total patient population, with a total of 174 forms returned from 15 wards. The questionnaire was used specifically to obtain as much information as possible from a large number of people at the ward level with a minimum of time and expense. The two-page questionnaire which was used contained 20 questions designed to provide answers to the following concerns: Do patients feel they are receiving help at the hospital? What kind of help do patients expect from the hospital? Do they receive the kind of help expected? Are they satisfied with the help received? What would patients like to see changed about the hospital? How do they view their own impact in terms of making constructive changes?

Some notions regarding the important issue of evaluating treatment programs at the patient level are presented. A hospital treatment program questionnaire was used to assess treatment from the patient's point of view. Findings specific to important questions regarding various aspects of treatment are reported, and the relevance and the limitations of these findings are discussed.

In the analysis that follows, no attempt was made to evaluate the responses of patients on the basis of age, sex, length of stay in the hospital, or the nature of their illness. Such a breakdown would involve only a small sample size and would be of questionable validity. However, the questionnaire completed by patients in this study did not include severely disturbed psychotics and organics. The age range was 15 to 70 (mean age was 36.4). There were 95 males and 79 females.

Seventy-five per cent of the patients reported they had received help from both the ward and hospital staff. Of this 75 per cent, 24 per cent indicated they had received "some" help, 17 per cent received "much" help, and 34 per cent received "very much" help. Superficially this seems to be a complimentary statistic; but, there are limitations to the generalization of such a finding. For example, there is the problem of acquiesence,

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especially with a group of subjects in an institutional setting. Also, much vagueness exists in what is understood by the term "help." For this reason, the question must be understood in the light of the remainder of the questionnaire which tries to ascertain the kinds and sources of help.

When asked who has helped most at the hospital, the psychiatric aides were most frequently identified as helpers by patients. Since the registered nurses tend to assume more of a supervisory role at the hospital, it is understandable that 48 per cent of the patient responses considered the aides to be the most helpful persons. This finding is compatible with the hospital emphasis on the critical role of the psychiatric aide in mental health rehabilitaton. Hospital efforts have been directed toward supporting and educating those who work closest to patients. Staff psychiatrists and ward physicians were considered the most helpful members of the hospital staff by 14 per cent of the patients. Interestingly, at the ward level, other patients were considered more helpful than even the medical staff. Proximity or availability may have had as much effect on the identification of "helpful" persons as the quality of helpfulness, although these two factors are certainly not mutually exclusive. Goffman[4] stresses the therapeutic significance of staff persons closest to patients in mental hospitals. Such an emphasis may partially account for the contribution patients seem to make to each other. The idea of patients helping other patients is certainly not a new one. As early as 1938, Rowland[5] described clearly that patients in a mental hospital organize themselves in an informal way for learning about activities and events in the hospital, for mutual instructions on how to deal with physicians in staff conferences, to keep up appearances before physicians, and generally to manage their time and problems while in the hospital.

In a further attempt to be more explicit about the term "help" or helpful," patients were requested to complete the open-ended question of what kind of help they had expected and received while at the hospital. Their responses were categorized rather broadly. Psychological help, for example, included any responses referring to mental, emotional, personality interpersonal, or social conditions. Medical help simply included responses relating to a patient's physical condition.

Fifty-six per cent of the patients responding expected some sort of psychological help, but only 43 per cent felt they had actually received such assistance. On the other hand, only 8 per cent of the patient responses indicated an expecation for medical help, but 17 per cent of the responses indicated that they had received such service. Six per cent of the responses indicated that they expected no help, but only 14 per cent indicated that they had actually received no help. With regard to satisfaction with help received, 63 per cent of the patients responded affirmatively, while 18 per cent responded negatively. Sixteen per cent of the patients did not respond to this question. With the exception of medical services, most patients indicated a discrepancy between help expected and help received. Although many factors may contribute to such a finding, it still seems important to be aware of the limitations of our treatment modalities and to continually work toward improvement. It has been observed frequently, and is therefore speculated, that most patients view the contribution of medication as highly significant in terms of their marked improvement in mental and emotional status. This may partially explain the positive discrepancy between medical help expected and received.

A determination of which hospital activities were most and least helpful was also attempted. The findings revealed considerable ambivalence and diversity of views on what comprises helpful activities. The major types of helpful activities with the corresponding per cent of positive patient response is as follows: recreational therapy, 41%; group therapy, 30%; occupational therapy, 18%; industrial therapy, 13%; group activities, 12%. Activities considered least helpful by patients are as follows: recreational therapy, 22%; occupational therapy, 18%; group activities, 9%; group therapy, 3%; industrial therapy, 2%. A number of intervening factors contribute to the lack of consensus of opinion on the meaning of "helpfulness." For example, geriatric patients may enjoy more domestic adjunctive therapies, but be quite aversive to therapies such as swimming and baseball. Such a discrepancy in responses may suggest a greater need for more individual consideration in fitting patient needs and preferences to hospital resources.

Since it seems important to be aware of the types of activities which are not seen as helpful to patients, they were requested to be more explicit about the particular things they felt should be changed about the hospital. Although over 25 per cent of the patients indicated that no changes were necessary, the following general problems were identified with the corresponding percentage of responses: more therapy, 11.5%; eliminate seclusion, 7.6%; need to separate patients according to illness rather than geographic origin, 3.8%; and, more freedom, 3.8%. This limited number of critical responses suggests that patients tend to be hesitant to express opinions of a negative or critical nature. Nevertheless, it is assumed that systematic reporting of patients' concerns would offer some guidelines to relevant and constructive change.

For a program to be truly considered patient-centered, it is expected that patients will be an integral part of the decision-making process regarding their own treatment. This, of course, involves considerable communication

with hospital staff. If patients are involved in the decision-making process, it is assumed that patients should have some awareness of how to bring about changes at the hospital, on their ward, and in their daily schedule. Responses to such a line of inquiry indicated that the ward government seemed to be the most effective means of bringing about changes at the ward level, and in some instances even changing hospital rules. The hospital-wide patient advisory council, an extension of ward government, was also considered another means of changing hospital or ward rules. Changing the patient's own daily schedule, however, continued to involve more of a one-to-one type relationship specifically with their assigned psychiatric aide or ward physician. Unfortunately, a number of patients indicated that they simply did not know how to bring about changes, primarily hospital-wide, but also at the ward level. Another substantial group of patients seemed pessimistic about their impact as a change agent. Such a finding would, perhaps, suggest the need for a renewed effort in helping patients to achieve a greater degree of mastery over their own lives, even in a hospital setting.

One of the important elements in a patient-centered program is the free interaction between staff and patients, involving the encouragement of decision-making in patient groups. Questionnaire findings, however, revealed that patients still tend to see important decisions regarding their treatment as the responsibility of the staff, particularly the medical staff. Such a finding seems supported by another question which revealed that most of the patients do have an opportunity to communicate with significant staff persons, but 20 per cent of the patients indicated they felt they had no influence on these "decision-makers." An even greater percentage (26%) of the patient responses indicated that they did not participate in their treatment program. Fifteen per cent of the patients, however, indicated no desire for more participation in their treatment program. But generally, the patients showed a desire for greater involvement in planning and determining their treatment. It seems safe to conclude that patients perceive areas which had not been recognized before in which they feel comfortable in assuming more responsibility for their actions.

Some may ask the purpose of gathering opinions of patients' perception of the treatment program in a mental hospital. The answer is that in the past more emphasis has been placed on professional views of patient adjustment than on a patient's own perception of his treatment situation. Such feedback from patients about their treatment program will hopefully serve as a supplement to other research data on the quality of mental health services.

Remaining responsive to patient perceptions as provided by a study such as this will require mental hospitals to accept program changes which are essential to contemporary functioning. Hospitals should continue searching for optimum mental health delivery systems for meeting the needs of a variety of populations who are major users of mental hospitals. Without sensitivity to the needs of consumers, mental hospitals may become a burden to the society which supports them, and eventually unresponsive to those who need rehabilitation services.

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Case Reports

CUTANEOUS LEISHMANIASIS

Active cutaneous leishmaniasis is rarely reported in the United States. We feel that the disease entity is important not only to the military physicians, but also the civilian physicians caring for patients who travel to endemic areas. This report is prompted by the fact that in the last few years tourism has been generally increasing to the endemic areas of South America and the Mideast.

The diagnosis of leishmaniasis was made in one Army sergeant following his referral to the Dermatology Clinic, Irwin Army Hospital, Fort Riley. The patient was a 22-year-old white male, who reported that his skin lesions appeared approximately one month after his return from the Jungle Warfare School, Canal Zone, Panama. The lesions were located on the right-lower leg and left elbow. They began as small erythematous papules that enlarged peripherally and ulcerated centrally. With ulceration, the lesions became pruritic and painful.

The admission examination result was essentially negative except for two lesions approximately 25 mm in diameter on the right-lower leg, and a 15 mm lesion on the left elbow, with right inguinal and left-lower cervical lymphadenopathy. The lesions were of the distinctive craterform type, having raised borders with an erythematous flare with a generally wet ulcer crater and a serosanguineous crust (see illustration). The typical morphology of the leishmanial organisms was seen on touch preps, taken from the base and sides of a biopsied lesion, and also identified on slides from the punch biopsy. Sera was taken for agglutination. Serological and histological testing was performed by the Public Health Service Center for Disease Control (CDC), Atlanta, Georgia. In our case, we received a positive titer of 1:64 for leishmania braziliensis, a significant titer, and a negative titer for leishmania tropica.

The differential diagnosis of the lesions included bacterial infections (particuarly ecthyma), syphilis, sporotrichosis, yaws, leprosy, caromoblastomycosis, tuberculosis, squamous cell carcinoma, and South American blastomycosis, which have a similar appearance.

Presently, the drug of choice recommended by CDC is an antimony compound, sodium stibogluconate (Pentostam). This drug has to be obtained on an investigational basis from Parasitic Division CDC, as it is currently not routinely available in the United States.



Figure 1

Earlier reports of good treatment results with Flagyl have not been borne out in later studies.

Therapy consists of daily intravenous infusions of sodium stibogluconate (100 mg pentavalent antimony/ml), in a dosage of 0.1 ml/kg of body weight per day with a maximum daily dose of 6 ml. Our patient also had a secondary infection of Staphylococcus aureus which was treated with 250 mg erythromycin four times a day. (This was based on the second author's previous treatment failure in other cases, when treated with antimonials alone.) The patient responded with prompt healing of the lesions, and the laboratory and electrocardiogram findings remained within normal limits.

Leishmania are small organisms usually spherical, oval, or fusiform, measuring 2-4 μ in length and 1-2 μ in width. They have an external membrane (periplast), a more or less spherical nucleus with a large central cariosoma, and a rodlet or point-shaped kinetoplast from which emerges a thin filament, the axonemia, which ends in one of the poles of the organism that represents the root of the flagellum.

The parasite is transmitted by several species of the genus Phlebotomus, and only the female can carry out this transmission as only they are hematophagous. These sand flies are small, hairy, and have an extremely limited range of flight. They breed in rodent burrows, cracks in masonry, and in rubbish. Phlebotomus flies acquire the protozoan by direct ingestion of the blood of man, or from the infected skin of dogs or rodents. The leishmanial organisms, after entrance into the insect gut, develop into leptomonad flagellates and migrate to the anterior section in the insect's esophagus and pharynx. After several days they seem to clog the esophagus, so that the Phlebotomus must clear it in order to eat and, in so doing, injects some of the parasites into the mammalian host prior to her blood meal. Thereafter, the development of the flagellate into leishmanial form (aflagellate) takes place.

Most of South America and the Mideast are endemic areas. Therefore, the presumed location of exposure would be where the natural cycle is maintained between mammalian host and arthropod vectors. Man is not ordinarily involved in this cycle; it is only when he invades the natural habitat that he becomes involved. Therefore, it is not surprising that the U. S. Jungle Warfare School in the Panama Canal Zone is one of our major sources of infection. Plotting of the seasonal distribution of the infection indicates that transmission occurs during all months of the year, but suggests a peak from February to April.

(Note: A list of references is available from the authors, Department of Dermatology, Irwin Army Hospital, Fort Riley 66442.)

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CLINDAMYCIN ASSOCIATED PSEUDOMEMBRANOUS ENTEROCOLITIS AND TOXIC MEGACOLON

Pseudomembranous enterocolitis was first described by Billroth in 1867, and its cause, while still unknown, has been associated with a large number of processes, including antibiotics. Clindamycin-associated pseudomembranous enterocolitis was first reported by Cohen *et al.* in 1973. Since then, over 50 similar cases have appeared in literature, clearly establishing a relationship

between them. The purpose of this case report is to emphasize the potential hazard associated with clindamycin. Presented is the fourth known reported case of a clindamycin-associated pseudomembranous enterocolitis with toxic megacolon.

A 41-year-old white male, with a four-week history of rectal bleeding, was found to have a rectal adenocarcinoma. Upon hospitalization the results of initial laboratory evaluations, including complete blood count, urinalysis, chest x-ray, bone and liver scan, were negative. The patient had no previous history of gastrointestinal disease or known drug allergy. On July 24, 1974, an abdominal perineal resection was performed. There was metastasis present in 4 of 22 lymph nodes. Because of intraabdominal fecal contamination, he was started on a regimen of intravenous clindamycin, 500 mg every eight hours, receiving a total dosage of 13 gm. His postoperative course was complicated by a small bowel obstruction. He was discharged on August 18.

The patient returned to the emergency room by ambulance three days later, because he had fainted at home. His history revealed he had been having diarrhea for two days, with over 20 stools per day. Physical examination upon arrival revealed blood pressure of 60/0 mm Hg; pulse, 140 beats per minute; and diffuse abdominal tenderness with guarding and mild distension. Laboratory data included: hemoglobin, 17.9 gm/100 ml; WBC, 12,400 with a severe left shift; sodium, 119 mEq/liter; potassium, 5.9 mEq/liter; chloride, 91 mEq/liter; bicarbonate, 10 mEq/liter; total protein, 5.0 gm/100 ml; albumin, 2.4 gm/100 ml. Multiple stool cultures were negative for pathogenic bacteria.

The patient was resuscitated with large quantities of electrolyte-containing solutions and colloid. The severe diarrhea persisted and its cause was unexplained throughout three days of intensive medical therapy. On August 25, an exploratory laparotomy was performed, which revealed a toxic megacolon. A total colectomy with ileostomy was then performed. At surgery, the colon was boggy, edematous, and dilated up to 12 cm in diameter. The serosa was purple and injected, and the entire mucosal surface of the opened colon, except for the last 7 cm was covered with a gray-green pseudomembrane which peeled off easily. The bowel wall was 2 cm thick. Microscopic examination of the colon was consistent with pseudomembranous enterocolitis. Following colectomy, there was significant initial improvement, and the patient was stable until 10:00 PM on August 26. He then developed irreversible shock. In spite of intensive therapy, including mechanical ventilation with PEEP, colloids, steroids, pressor agents and antibiotics, he expired at 7:50 PM on August 27. Antemortem blood cultures grew Pseudomonas aeruginosa. Significant autopsy findings included massive pulmonary edema and microscopic foci of adenocarcinoma on the seminal vesicles.

The most frequent presenting symptom of a clindamycin-associated colitis is a profuse, watery, non-specific diarrhea varying from 2 to 20 or more stools per day. Some of the stools may be bloody. Other symptoms include nausea, vomiting, fever, chills, and abdominal pain. Sigmoidoscopy is the key to diagnosis. The typical findings of pseudomembranous enterocolitis are: The colonic mucosa is friable, ulcerated, erythematous, granular, and covered with multiple 1-5 mm whitish-yellow to gray-green plaques, which may be confluent. The process may involve the entire gastrointestinal tract, but is usually limited to the colon.

The treatment is primarily supportive. The offending antibiotic must be discontinued and aggressive therapy directed at correction of electrolyte imbalances, restoring blood volume and treating shock and colloid replacement. Parenteral ACTH or hydrocortisone and local steroid retention enemas have been found beneficial and are recommended.

The recovery phase generally requires several months and, while the majority of patients survive, deaths are reported. With early recognition and therapy, death may be prevented in critically ill patients. On long-term followup, the majority of patients are free of symptoms and have normal sigmoidoscopic examinations. However, there are documented cases of recurrence of the colitis without reexposure to clindamycin.

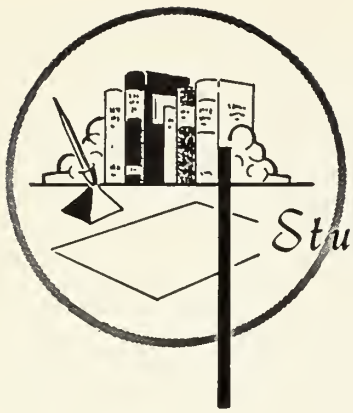
At the present time, it is impossible to predict which patients will develop pseudomembranous enterocolitis associated with the use of clindamycin. Therefore, the drug should be restricted to life-threatening situations, for which it is clearly the drug of choice.

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Bullous Myringitis

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BULLOUS MYRINGITIS is a descriptive name for the clinical entity characterized by vesicular eruptions of the tympanic membrane. At one time these vesicular eruptions were referred to as "influenzal blebs," by otologists who considered their mere presence to be pathognomonic of epidemic influenza.[1,2] Today, the cause is unknown. In general, bullous myringitis is thought to have a viral origin, although this fact is not well established. Therefore, it is the purpose of this paper to consolidate the information available on this disorder.

History and Etiology

As early as 1853, Wilde[3] recognized the presence of bullae and abscesses within the tympanic membrane layers. In 1902, Politzer gave a description of the inflamed tympanic membrane with hemorrhagic blisters frequently seen in otitis due to influenza. This seemed to be substantiated in the great influenza pandemic of 1918-1919, when several authorities noted bullous hemorrhagic lesions.[1–4]

Jenkins,[4] in 1926, first suggested that "filter passers" might be responsible for the disease with special consideration given to the herpetic virus. Fluid from myringitis blebs injected into the skin, cerebrospinal fluid, and the brain failed to elicit a reaction characteristic of the herpetic virus.

In 1931, Ziegelman[5] set forth the theory that circulating toxins with an affinity for the tympanic membrane caused "influenzal blebs." However, Karelitz[6] found that myringitis bullosa mainly complicated the upper respiratory infections and tonsillitis, as well as measles, pertussis, scarlet fever, sinusitis, bronchitis, pneumonia, grippe, and otitis media.

Ruskin,[7] in 1938 theorized that myringitis bullosa hemorrhagica was related to latent scurvy. He hypothesized that gastrointestinal disturbance (i.e., influenza) deprives the body of normal vitamin C absorption, predisposing to hemorrhagic extravasation in the delicate tissues of the inner third of the auditory canal. Therefore, with this cause of myringitis bullosa hemorrhagica in mind, his treatment consisted of large doses of vitamin C (namely, calcium cevitamate). Although a high percentage of these cases were supposedly cured with this treatment, it did not substantiate his theory, since the disease is ordinarily self-limited. Also, for Ruskin's theory to be correct, patients with scurvy or bleeding tendencies would be expected to have a high incidence of myringitis bullosa hemorrhagica; however, this was not found to be true.

In 1940-41, a nationwide outbreak of epidemic influenza cases associated with "influenzal blebs" occurred. Senturia and Sulkin,[1] in six cases of myringitis bullosa hemorrhagica, failed to show evidence of infection with influenza A or B viruses using complement fixation and neutralizing antibody studies. However, Yoshie,[8] during the Japanese influenza epidemic of 1953-54, isolated A prime influenza virus from the middle ear in four of ten patients.

Rifkind, *et al.*,[9] in 1961, showed a high incidence of myringitis in susceptible volunteers infected with the Eaton agent (12 of 27 patients). Two cases progressed to myringitis bullosa hemorrhagica. Cultures from the external ear and bleb aspiration failed to yield Eaton

This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the School.

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agent. Yet Sobeslavsky, *et al.*,[10] isolated mycoplasma pneumonia from the nasopharynx of two patients and the affected ear of another patient. Mufson and associates[11] also observed myringitis without bullae or hemorrhage in six per cent of the patients with Eaton pneumonia in the Parris Island population.

Recently, hemorrhagic bullous myringitis has been reported in the fetus of a mother with influenza A pneumonia[12] and in a patient with infectious mononucleosis.[13]

So far this historical review strongly suggests that influenza virus, the Eaton agent, and viruses in general, play causative roles in bullous myringitis. However, Merifield and Miller,[14] in 1966 failed to establish that the Eaton agent or viruses bear a direct causal relationship in 23 cases of bullous myringitis. The complement fixation tests against the Eaton agent and 10 common viral agents were negative. Viral isolation, cultures, and agglutination tests were also unsuccessful.

The significant number of unsuccessful attempts to isolate viruses or the Eaton agent is impressive, and may be explained in several ways: (1) It is possible that local inhibitors interfere with isolation of viruses and mycoplasma directly from middle ear fluid or tympanic membrane bleb fluid; (2) The inability to isolate mycoplasma pneumonia or viruses might indicate that these organisms do not invade the middle ear, or that they are present in small numbers which do not allow recovery; (3) It is conceivable that bullous myringitis is a nonspecific reaction resulting from a variety of insults related to respiratory infections.

Clinical Characteristics

Classically, the patient presents with serous or hemorrhagic bullae on the tympanic membrane or in the external auditory canal. These blebs appear most often on the posterior aspect of the membrane and canal wall, and consist of sharply demarcated vesicles beneath the stratum cutaneaum. Bullae appear in crops, and may be bilateral or unilateral.[15–18]

The patient's complaint of pain is sudden in onset, and usually out of proportion to local findings, persisting on the average of 24 to 72 hours. The discomfort is described as excruciating, agonizing, and stinging. In contrast to the otalgia, the absence of hearing impairment even with dramatic membrane changes is notable.[13] Patients with bullous myringitis have minor temperature elevations, and when the bullae rupture, a serosanguineous otorrhea ensues.[15]

Complications

Textbooks today often imply that bullous myringitis is a self-limited disease of uncomplicated course. However, Karelitz[6] followed a group of 87 cases in which 10 per cent subsequently developed purulent otitis media. Dawes[3] noted that facial paralysis and perceptive hearing loss may occur.

The encephalitic lesions, although rare, most commonly occur soon after the onset or in the second or third week of myringitis. Early encephalitis, Dawes postulates, is due to direct viral invasion of neural tissue, while that of late onset may represent a post-infectious "auto allergic" reaction.[3]

Differential Diagnosis

The typical bullae in the external auditory canal or in the tympanic membrane are fairly characteristic of myringitis bullosa. However, acute otitis externa, aerotitis, herpes zoster oticus, and umbo blebs must be differentiated from this condition. Umbo blebs are benign, asymptomatic, noninflammatory, vesicular lesions of the tympanic membrane. They are always limited to the umbo, are of unknown cause, and are thought to be the result of primary degeneration of epithelium.[13]

The importance of recognizing bullous myringitis lies in the fact that encephalitis or a lower motor neuron lesion may develop. The post-infectious encephalitis must be differentiated from the complication of an otitis media, namely sigmoid sinus thrombosis or cerebral thrombophlebitis. Suppurative otitis media usually picks out one cranial nerve at a time, whereas viral encephalitis attacks several nerves including the oculomotor nuclei.[3]

Prognosis and Treatment

The prognosis of uncomplicated bullous myringitis is excellent. Ninety per cent of the ear conditions resolve spontaneously, justifying conservative treatment.[6] Those with facial palsy usually recover quickly and completely, and the majority of vestibular and acoustic nerve lesions do well. Even the prognosis of encephalitis is good. Serious sequela depend upon the occurrence of secondary suppuration.[3]

Treatment is symptomatic—incision of vesicles no longer being practiced because of the threat of secondary infection. Dubow[19] recommends conservative treatment consisting of daily examination, local heat, analgesics, and the instillation of non-irritating, desiccant and decongestant drops (purified glycerol with a small quantity of antipyrine and benzocaine). In Dubow's comparative study, this regimen gave considerably quicker relief of symptoms and equivalent cure rates when compared to the use of antibiotics. Dubow also concluded that the indiscriminate use of large antibiotic dosage in nonsuppurative ear involvement has been

suggested as a possible predisposing cause of serious ear disorders.

Summary

Myringitis bullosa is a disease of uncertain cause, having an association with viruses and the Eaton agent. Complications such as encephalitis, facial palsy, and perceptive hearing loss are rare. Treatment is conservative, consisting of palliative treatment and reserving antibiotics for suppurative otitis media.

Acknowledgments

G. O. Proud, M.D., Chairman, ENT Department, University of Kansas Medical Center, provided constructive criticism in the preparation of this paper.

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NEW MEMBERS

The JOURNAL *takes this opportunity to welcome these new members into the Kansas Medical Society.*

Nabih I. Abdou, M.D.
1008 W. 67th
Kansas City, MO 64113

Charles E. Alexander, M.D.
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Perry N. Schuetz, M.D.
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James L. Unger, M.D.
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Kansas City, KS 66103

The President's Message

Now Is the Time for All Good Men . . .

The grind has begun. The Legislature has started work on the professional liability problem. Governor Bennett has put himself on our side in his annual message. Senator Sowers, Representative Ward, Commissioner Bell, and many other legislative and administrative leaders have worked constructively for possible solutions.

Your officers and staff, the Professional Liability Commission, the Legislative Committee, as well as many of you, will toil long hours in the Statehouse and in countless, agonizing committee meetings before the session ends.

Yet, the real key to success lies with each of you. First, become thoroughly familiar with just what it is the KMS has proposed on your behalf. Read thoughtfully what is sent you. Second, understand that soul-satisfying accusations of bad faith hurled at other concerned parties—lawyers, the insurance industry, politicians, etc.—have no weight in the legislative process. They are, in fact, negative in effect. Third, use every means available to place the positive proposals of the KMS before your patients, each legislator you know, especially your own representatives, and your friends in the other licensed health professions—dentists, nurses, optometrists—who will also be profoundly affected by any legislative action. Urge their support!

Some of you will not agree with some of the proposals of the KMS—or our strategy in the legislative arena; that is your right. However, it is my strong conviction that all physicians will be served best by active support from all of us for the program and direction of effort developed by our Professional Liability Commission. The democratic legislative process is a frustrating maze—and a blooming marvel. We can make it work to produce at least a strong base for a solution to our problem. But not without the help of each and every one of you.



Let's go to work!

Fraternally,

John W. Travis M.D.

President



Editorial COMMENT

Point of View

Only a couple of years ago, we recall that fear was expressed by some that the country was not showing enough interest in the approaching bicentennial anniversary. Now, with the calendar year just begun (and the auspicious date still some six months away), we have a distinct feeling that it already is a little shopworn. The fashion designers have rediscovered red, white, and blue. The hucksters have produced undreamed-of ways to make the consumption of their products the ultimate in patriotic gestures. Pictorial representations of historic figures and events have been applied to every object that will hold still and some that won't. On a more scholarly level, investigative historians have exposed our founding heroes as mere mortals (and sometimes less) and at the same time have discovered unknown virtues in some we had dismissed as scoundrels. We hope that, in spite of the preoccupation with truth that is prevalent these days, the younger members of our enlightened society are being exposed to a little of the idealized, if somewhat inaccurate, patriotism of an earlier day. As with sex, one needn't be in possession of all the facts to enjoy the activity.

This determination to celebrate events in accordance with the number of years since they occurred is apparently a human characteristic. Our subspecial cousins seem to accept the basic physiologic time-marks and do not seem to count certain cycles as significant beyond their sleeping, eating, and mating rituals. We human beings, however, find it a cultural necessity to divide the passage of time into certain segments (which seem to celebrate the use of a numerical system with a base of ten as much as the designated event), and we suggest this is an expression of awareness of our own frailty and limited duration (the lack of which distinguishes the aforementioned cousins). Whatever the basis of the compulsion, it does serve to inspire civic club speakers, ministers, military and governmental dignitaries, and editorial writers (*especially* editorial writers) to attempt stirring observations of the then-and-now type. If it seems to get a little heavy at times, listeners and readers can at least be comforted that the volume probably won't be quite so great again for another hundred years. Meanwhile, who are we to fight the current?

And, parenthetically, we note at this point that we count the year as special for another reason. Though the fact has received less than nationwide notoriety, this publication is celebrating its 75th anniversary, for which the Editorial Board will accept congratulations with becoming modesty. But more of that later—July, to be exact.

In medical history as in national history, this intensive concentration on things past produces one of two reactions. First, there is the indulgent surprise that our ancestors were really pretty sharp and turned in a good account of themselves, a dubious tribute at best since it is based on the specious notion of our own superiority. The other interpretation is at least more honest: how could they have made all the mistakes they did, and why couldn't they see what they should have done? It must be remembered that, within limits of our respective worlds, we probably don't differ too much from the old folks in capability, motivation, aspiration, or any other measure of social, professional, or intellectual function —which also suggests that the chemistry of the central nervous system doesn't change too much in a few hundred years.

But looking back inevitably gives one a feeling of being at the pivot point in the process of change, for it prompts one to look forward and attempt to determine what life and the world will be like for our progeny who, in *their* time, will be looking back at us. With characteristic temerity, therefore, we suggest the two influences on medical practice which we foresee as having the most profound effect on its conduct in the future—and consequently on its practitioners.

The first is the burgeoning medical technology—not just the conventional laboratory service, but the development of increasingly sophisticated equipment requiring a degree of expertise and attention that the physician will be unable to provide personally and so, increasingly, will require the assistance of other individuals. This electronic revolution is far-reaching in its impact on the

whole medical structure. The inclusion of more people and materiel in the diagnostic and thereapeutic maneuvers (with its obvious impact on the traditional patient-physician relationship) comes at a price—neither the personnel nor the machines can be mass produced or mass utilized to achieve the benefits of economy. As the electronic hardware reduces the patient to a list of figures or an oscilloscopic snake dance, its provision and maintenance will require great outlays of money. Obsolescence will be as rapid as the medical engineer (who will be to the coming century what the surgeon has been to the past) can devise improvements and extend applications. The physician, occupied with holding his position in the crowded examining and treatment rooms, will emerge to find that the third party has become firmly established in the business office, since the patient will be unable to meet the cost alone.

These changes are inexorable because, even as the physician and patient both deplore the passage of medical practice as it has been known, both demand the features that will effect the change. It is not a question of whether to change but an effort to control the rate. The prospect of mankind dominated by the computer is intriguing but the dominance will not be, we think, of the traditional master-slave character. Rather, it will be the capacity of the machine to respond to questions more rapidly than the human being can assimilate the answers. Mankind is already living in a state of mass bewilderment as it tries to adapt. The danger is not in the changes—we would have them even without the technological explosion—but in the rate at which they tax our capacity to relate to new concepts and readjust our sense of professional identity.

Strangely, in spite of this increasing depersonalization of medical practice, the other element we see occupying the professional attention is the most intensely personal of all—the matter of life and death. In simpler times, life was white and death was black. The line between was sharp, and the distinction no more difficult to assess than the presence or absence of fog on the mirror. Today, technology has modified, extended, and delayed the transition until it seems the only limitation on our survival will be the viability of the power company. The paradox, of course, is that this preoccupation with maintaining the substance of the patient is the ultimate depersonalization.

At the moment (as attested by the Quinlan case), physicians function under the judicially assured but uneasy principle that they are the prime determiners of the patient's management. The fallacy in this attitude is that the risk of legal reaction, the uncertainty that other courts will support this principle, and the disunity in social and spiritual interpretation intrude upon the medical scene, and if we are unsure what life and death are medically, neither do we know legally.

Determining the composition of life, then, will be a prime concern of the medical profession. This is as it has always been, but never before has this capability to defer death forced mankind in such a way to scrutinize and evaluate its attitude toward these two states of being. As additional artificial forms of function are devised, as organ replacement and repair are extended, as genetic and immunologic engineering alter fundamental cellular relationships, the medical profession will find itself increasingly involved with the state, the courts, the church, and the forum as it attempts to conduct its function.

Well, one of the happy things about such prognostications is that they are related semantically to the pronouncements of astrologers and other soothsayers—so vague in construction and so general in content that they can mean anything or—perhaps—nothing. And if one will not be around to receive the plaudits for one's foresight, neither will one have to experience the indignities heaped upon the false prophets (as are all who are wrong).—*D.E.G.*

KMS MEETINGS 1976

January 18 (Sunday)	*Emporia*	Executive Committee	10:30 a.m.
	Emporia	Council Distr. 7	12:00 noon (luncheon)
	Emporia	Council	1:30 p.m.
February 20 (Friday)	*Topeka*	Executive Committee	6:30 p.m.
22 (Sunday)	*Topeka*	Auxiliary Officers	
March 21 (Sunday)	*Wichita*	Commissions	10:00 a.m.
	Wichita	Executive Committee	1:30 p.m.
April 11 (Sunday)	*Great Bend*	Executive Committee	10:30 a.m.
	Great Bend	Council	1:30 p.m.
May 2-5	*Salina*	117th Annual Session	

Vox Dox

Vox Dox Editor:

With reference to your article, "Reversible Cardiogenic Shock After Low Dose Oral Propranolol," appearing in your November 1975 issue of THE JOURNAL, I don't know if it is significant or not, but I would like to call your attention to the fact that in all the cases presented, low dose oral propranolol was accompanied by oral procainamide therapy.

This brings to mind the consideration of the possibility of the pharmacologic incompatibility. Has this question been evaluated?

CLELL B. FLOWERS, M.D.
Wichita, Kansas

Vox Dox Editor:

The three cases from my article on propranolol in the November issue of THE JOURNAL were all on both procainamide and digoxin before propranolol was begun. In my review of the literature, I found no reports of adverse drug interactions with either drug. Many of Greenblatt's patients were on procainamide as well as other cardiac active drugs, but he was unable to find a statistically significant pattern of drug interaction.[1]

The mechanism for induction of heart failure with propranolol is either B-blockade in patients requiring high sympathetic tone for compensation, or slowing the heart rate in patients with a limited stroke volume who require a rapid pulse to maintain cardiac output.[2]

Procainamide is not known to significantly affect either sympathetic tone or heart rate. For these reasons I would feel it was coincidental, for these patients were taking both drugs with no evidence of a toxic interaction. However, this cannot be proven at this point and further clinical observation will be useful.

Thank you for your inquiry.

1. Greenblatt, David J. and Koch-Weser, Jonet: Adverse reactions to propranolol in hospitalized medical patients: A report from the Boston collaborative drug surveillance program. *Amer. Heart J.* 86:478-484, 1973.

2. Sollery, C. T.; Patterson, J. W. and Conally, N. E.: Clinical pharmacology of beta-receptor-blocking drugs. *Clin. Pharmacol. Ther.* 10:765-799, 1969.

HOWARD SWANSON, M.D.
Kansas City, Missouri

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high-contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

Gung Ho

Our title this month has different meanings for different people. The literal translation, however, is "working together." The PSRO efforts of the KFMC require the working together of many people.

The PSRO program is changing on a continuous basis. For example, "the PSRO statutory requirements with regard to notification and polling of physicians expired on December 31, 1975. It is not legally possible to administratively extend these requirements. Therefore, notification and polling procedures will not be applicable to PSRO conditional contracts entered into on or after January 1, 1976."*

In addition, as of January 1, 1976, the Secretary of HEW is authorized to enter into contracts with organizations other than physician organizations. The Assistant Secretary of Health, however, has decided to continue funding only physician organizations for the next 12 to 18 months.

Although some physicians feel that we are jousting windmills, we feel that the cornerstone of our Foundation is physician cooperation and effort. The success of the Kansas PSRO program will be directly proportional to the efforts exerted by Kansas physicians at the present time. We are sad to say that many physicians in this state feel that a lack of response is the way to handle PSRO. They feel that if they wait long enough, PSRO will go away. Many other interested parties, however, are becoming involved with PSRO, both on a national and on a statewide basis. We feel that physicians should be leading the field, instead of following the lead of others.

Teddy Roosevelt said, "nine-tenths of wisdom is being wise in time." We hope you will decide that now is the time to become actively involved with the KFMC efforts to exert an influence over how the PSRO program will operate in Kansas.—*J.E.A.*

* From a letter by Michael J. Goran, M.D., Director, BQA, dated December 9, 1975.

Open Letter to the Doctors of Kansas

Dear Doctor:

My best wishes to all of you for a most successful New Year in improving the climate for medicine in Kansas!

Listening to Dr. Parrot's address to the AMA House of Delegates, I noted that he emphasized the fact that the doctors are facing monumental problems ahead; he said that good relationships with patients is the best insurance a doctor can have. In relation to these ideas, Betty Wilkinson, President of the American Medical Auxiliary, said in her address that the Auxiliary wants to know what needs to be accomplished, specific problems to be solved in which the Auxiliary can help you. We have much to gain by working together. We are here to complement you. Your concerns are our concerns. Let us reach those you did not have time to reach. We are as serious as you are. We are concerned, want to be involved where you need and want us, and we will be right beside you.

Your Medical Auxiliary in Kansas shares these same sentiments. We urge you to call upon us and use us in any situation in which you find that we can ease your load and help you find a solution, to enable you to give the best possible medical care to your patients in Kansas.

We realize it is just as important for us to follow Dr. Parrot's advice, to try to understand the underlying truth in accusations made against the doctors and the medical profession, and deal realistically with the problems. In this way, we hope to be part of the solution rather than part of the problem.

Please call on us so we can join you, for we can do more together.

Sincerely,
Anita Yoder
President,
Woman's Auxiliary to the
Kansas Medical Society

Obituaries

CLARENCE H. BENAGE, M.D.

Dr. Clarence H. Benage, of Pittsburg, died November 20, 1975, at the age of 73. He was born on July 1, 1902, in Iberia, Missouri.

Dr. Benage was graduated from the St. Louis University School of Medicine in 1927, and began his life-long medical practice in Pittsburg the same year. He served as president of the Kansas Medical Society in 1951/52.

Surviving Dr. Benage are his widow and a son.

JOHN A. BILLINGSLEY, M.D.

Dr. John A. Billingsley, 78, of Kansas City, Kansas, died November 30, 1975. He was born in Minneapolis, Kansas, on June 3, 1897.

A 1928 graduate of the University of Kansas School of Medicine, Dr. Billingsley was head of the eye department at Bethany and Providence Hospitals from the mid 1930s to 1945, and was head of the eye department at K.U.M.C., 1945 to 1953. He was also a clinical professor of ophthalmology at K.U.M.C.

Survivors include two daughters. Memorial contributions may be made to the Bethany Medical Center.

WALTER A. CARR, M.D.

Dr. Walter A. Carr, 98, of Junction City, died December 9, 1975. He was born February 18, 1877, in Leon, Iowa.

Dr. Carr was graduated from Northwestern University School of Medicine, in 1905. His medical practice was established in Junction City in 1906, where he practiced until his retirement, in 1969.

A son, Robert M. Carr, preceded him in death.

BOYD L. GREEVER, M.D.

Dr. Boyd L. Greever, of Hutchinson, died December 5, 1975, at the age of 83. He was born March 2, 1892, in Winfield.

Dr. Greever was graduated from the St. Louis University School of Medicine, in 1918. He practiced medicine in the Hutchinson area since 1921.

Surviving Dr. Greever are his widow and a son.

THOR JAGER, M.D.

Dr. Thor Jager, of Wichita, died November 18, 1975, at the age of 93. He was born in Stockholm, Sweden, in 1882.

Dr. Jager received his medical degree from Northwestern University School of Medicine, in 1907. He was Wichita's first pathologist and founder of the pathology department at Wesley Medical Center.

His widow, two sons, and a daughter survive. Memorial contributions may be given to the Wesley Medical Center Office of Development.

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KaMPAC

KANSAS MEDICAL POLITICAL ACTION COMMITTEE
1300 TOPEKA AVE., TOPEKA, KANSAS 66612

Join KaMPAC for 1976!!! The Board of Directors of KaMPAC has been reorganized and there will be more emphasis placed on state legislative races this year. Please send your contributions so that our efforts will have the required backing to be effective.

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I. Unincorporated Doctors

Doctors $20.00—Regular membership + $80.00 for sustaining membership
Doctors' Spouses $20.00—Regular membership + $80.00 for sustaining membership
Dentists, Vets . $20.00—Regular membership + $80.00 for sustaining membership

II. Incorporated Doctors

The same except that corporate money cannot be used for candidate support. Therefore, we urge you to send personal checks. Corporate money can only be used for educational purpose. If you feel you want to give only corporate money, don't hesitate! It will go into the funds for education and not to candidates.

A copy of our report filed with the appropriate supervisory officer is (or will be) available for purchase from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402.

Announcements

(Continued from page 6)

Apr. 26-29 American College of Surgeons, Boston. INFO: C. R. Hanlon, M.D., 55 E. Erie, Chicago 60611.

MAY

May 2-5 Kansas Medical Society 117th Annual Session, Hilton Inn, Salina.

May 16-20 American Urological Association, Las Vegas Hilton, Las Vegas. INFO: H. B. Jennings, Jr., M.D., 1120 N. Charles St., Baltimore 21201.

May 17-18 Health Problems of Skin, Washington, D.C. INFO: Frank Chappell, AMA, 535 N. Dearborn, Chicago 60610.

May 27-29 American Cancer Society, National Conference on Radiation Oncology: *Present Status and Future Potential,* San Francisco Hilton and Tower, San Francisco. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Ave., New York 10017.

University of Miami School of Medicine

Jan. 20-23 *Pathology,* Miami Beach

Jan. 23-25 *Anatomic Pathology,* Miami Beach

Feb. 23-27 *Basic Neurology,* Miami Beach

Mar. 31-Apr. 3 *Renal Disease and Hypertension,* Bal Harbour

For further information, write the Division of Continuing Medical Education, U. of Miami School of Medicine, P.O. Box 520875, Biscayne Annex, Miami 33152.

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The Lord's Prayer has 56 words; Lincoln's Gettysburg Address, 266 words; the Ten Commandments, 297; the Declaration of Independence, 300. A recent government regulation on the sale of cabbage has 26,911 words.

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A new approach to oxygen therapy

Recent developments in liquid oxygen systems offer the physician and patient a new degree of freedom in using oxygen therapy. The Linde Oxygen Walker System by Union Carbide is small and lightweight. It is carried over the shoulder with a shoulder strap and is designed to be filled by the patient from a reservoir, which serves a supply unit and supplemental breathing supply in the home. The Linde system is the only portable oxygen system approved by Medicare.

Our staff registered therapist trains the patient in using the equipment, we're available for emergency service around the clock, we maintain current records of each patient's equipment and usage patterns, and we make scheduled visits to the patient's home for inspection of the system.

Our equipment and our services are to assist you in improving your patients' quality of life.



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Month in Washington

The Administration has had a change of mind and now backs legislation that would bar unions from requiring members to join federally-subsidized Health Maintenance Organizations (HMOs).

Referring to a provision in the HMO bill recently passed by the House, Theodore Cooper, M.D., Assistant HEW Secretary for Health, said "this amendment would assure that each individual employee would have the right to choose to participate before joining."

Dr. Cooper's statement before the Senate Health Subcommittee represented a switch in Administration policy. Only a month ago, the HEW Department issued regulations on HMOs that allowed unions at the collective bargaining table to choose an HMO or regular private health insurance on behalf of the entire union membership.

The original HMO measure approved by Congress specified that all employers with more than 25 workers had to offer the "dual option" of HMO or regular insurance to their employees in areas where HMOs were situated and sought this option. However, this clause caused confusion and was viewed by labor—backed by the Labor Department—as interfering with Labor's present collective bargaining rights to pick a single health benefit package. In issuing final regulations on HMOs last month, HEW went along with Labor's viewpoint.

As the Senate Health Subcommittee headed by Sen. Edward Kennedy (D-Mass.) opened hearings on the House-passed amendments to the HMO law, Dr. Cooper said "we endorse the clarification of existing law which provides that an employer offer an HMO option under 'dual choice' first to the employees' representative, if any, and, if accepted by the representative, then to the individual employees."

The House measure retained Labor's collective bargaining opportunity to select a regular private health insurance program as the sole health benefits program, but said that employees could not be forced to accept an HMO.

The problem with the Labor Relations Act and the "dual option" may eventually have to be settled by the courts. A key issue is whether union membership can be required in total to join a plan that is federally subsidized. A non-subsidized HMO or prepaid group prac-

Doctor, here are 100% deductible retirement plans!

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tice plan may be selected by Labor for all members without question.

The House Ways and Means Committee has approved four technical amendments to the Medicare law, including one which would forestall rollbacks in some physicians' Medicare reimbursement.

An unintended effect of the HEW Department's new Medicare reimbursement index tying physicians' Medicare fees to a cost-of-living-type formula was to cause some reimbursement levels to be less this year than last despite rises in the cost of living. The Ways and Means amendment would prevent any reimbursement to be less this fiscal year than allowed previously.

The AMA had urged this change. The other amendments dealt with reimbursement for teaching hospitals, the Federal Employees Health Benefits Program, and extension of an exemption for certain nurse staffing requirements in rural hospitals.

Two broad philosophical principles—the right of privacy and the public's right to know—are colliding in federal health programs. The dilemma was pointed up recently when the Medicaid program decided the Freedom of Information Act required it to release upon request the names of physicians who collected more than $100,000 yearly from Medicaid payments.

The HEW Department said 207 physicians last year received more than $100,000 from Medicaid. The names of 13 New Jersey physicians were released immediately and all other names will be made public, HEW officials said. The names were requested by the *New York Daily News* and other newspapers on the basis of the Freedom of Information Statute designed to open up the workings of the federal government to public scrutiny.

Medicaid officials made clear that the figures were gross receipts and that there was no suggestion of any abuse or impropriety. Dr. Keith Weikel, Federal Medicaid Director, told a small group of newsmen that he was concerned that disclosure of the physicians' names might discourage some physicians from treating Medicaid patients, but he added that the Agency felt the information law required release.



Personalities—IN KANSAS MEDICINE

Joyce R. Sumner, Hutchinson, was reelected Secretary of the American Society of Anesthesiologists.

The American Association for Clinical Immunology and Allergy elected **William B. Triplett**, Topeka, as the new vice president for the nine-state North Central Region area.

George D. Marshall, Colby, delivered a speech to the Rotary Club recently. His topic dealt with professional liability.

After serving the area for 31 years as medical practitioner, **Alfred H. Thiemann**, Sublette, assumed the post of the county health officer.

The American Cancer Society, Cowley County branch, has elected **James N. Winblad**, Winfield, president.

Raymond J. Beal, having practiced in Fredonia 30 years full time, has reduced his medical practice. He now devotes more time to painting.

The Surgeon General of the U. S. Navy has appointed **Harold M. Voth**, Topeka, as consultant in psychiatry.

117th Annual Session
KANSAS MEDICAL SOCIETY

May 2-5, 1976
SALINA, KANSAS

Sunday, May 2–House of Delegates First Session, 9:00 AM –Marymount College

Monday, May 3–Sports Day, Salina Country Club

Tuesday, May 4–Scientific Sessions, Community Theatre

Wednesday, May 5–House of Delegates Second Session, 8:30 AM–Hilton Inn

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CLASSIFIED ADVERTISEMENTS

FAMILY PRACTITIONERS needed in Lawrence, Kansas, a rapidly growing community which is home of the University of Kansas. INFO: Physician's Recruitment Committee, Lawrence Memorial Hospital, Lawrence 66044.

PHYSICIAN'S ASSISTANT available immediately, fully trained. Please contact William K. Meyers, 852 Peterson, Wichita 67212 (Phone: 316-722-8747).

Wanted: Physician to join active emergency department group in Topeka, Kansas. Beginning salary mid-40s, plus fringes. Please contact: Emergency Medicine Associates Chartered, 2015 West 10th St., Topeka 66604.

PATHOLOGIST, certified AP and CP. Mid-40s. University trained, experienced in all fields of lab medicine. Seeks directorship of hospital; will consider lab or partnership position. Write Box 1-1275 in care of the *Journal*.

FOR SALE: Urology practice in Central Kansas. Write Box 2-1275 in care of the *Journal*.

UNIVERSITY OF KANSAS MEDICAL CENTER

DIVISION OF CONTINUING EDUCATION—DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION

Symposia:

EMERGENCY MEDICINE: THE FIRST 90 MINUTES

March 1 and 2, 1976

Guest Faculty:

EDWARD W. BERG, M.D., Medical College of Georgia, Augusta.
CARL JELENKO III, M.D., Talmadge Memorial Hospital and Medical College of Georgia, Augusta.
LARRY W. JOY, E.M.I.C.T., Director, Johnson County MED-ACT, Kansas City.
JAMES O. PAGE, J.D., Lakes Area Emergency Medical Services, Inc., Florida International University, and University of Pennsylvania.

Subjects to be discussed will include: PRE-HOSPITAL TRAUMA MANAGEMENT; MANAGEMENT OF IMMEDIATE ORTHOPEDIC PROBLEMS; IMMEDIATE TREATMENT OF THE BURN PATIENT; and IMMEDIATE TREATMENT OF THE CARDIAC PATIENT.

Registration Fee: $85.00.

CONCEPTS OF PAIN CONTROL IN DENTISTRY

March 5 and 6, 1976

Guest Faculty:

BERNARD B. BUTTERWORTH, Ph.D., University of Missouri, Kansas City.
FRANK M. McCARTHY, M.D., D.D.S., University of Southern California School of Dentistry, Los Angeles.
THOMAS W. QUINN, D.M.D., Tufts University School of Dental Medicine and Carney Hospital, Boston, Massachusetts; and Quincy City Hospital, Massachusetts.
NORMAN TRIEGER, D.M.D., M.D., Montefiore Hospital and Medical Center and Albert Einstein College of Medicine, Bronx, New York.

Subjects to be discussed will include: ANATOMY OF THE UPPER AIRWAY; PREANESTHETIC EVALUATION AND SEDATION; CARE OF THE CARDIAC DENTAL PATIENT; CONSCIOUS PATIENT SEDATION IV AND INHALATION; OFFICE EMERGENCIES AND RESUSCITATION; and MONITORING DURING SEDATION.

Registration Fee: $125.00.

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RYNATAN, for symptomatic relief of colds and allergic rhinitis. Convenient b.i.d. tablet and liquid dosage.

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RYNATAN®: Each tablet contains Phenylephnne Tannate, 25 mg.; Chlorpheniramine Tannate, 8 mg.; Pyrilamine Tannate, 25 mg.

Each 5 ml. (1 teaspoonful) RYNATAN® PEDIATRIC SUSPENSIDN contains: Phenylephrine Tannate, 5 mg.; Chlorpheniramine Tannate, 2 mg.; Pyrilamine Tannate, 12.5 mg. CDNVENIENT B.I.D. DDSAGE for convenience and economy.

INDICATIONS: RYNATAN provides symptomatic relief of the coryza and nasal congestion associated with the common cold. other upper respiratory infections and allergic rhinitis. In sinusitis, drainage from the affected sinuses may be improved.

CONTRAINDICATIONS. RYNATAN is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery.

AOVERSE REACTIONS: Drowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

DOSAGE ANO AOMINISTRATION. RYNATAN TABLETS: 1 or 2 tablets every 12 hours.

RYNATAN PEDIATRIC SUSPENSION: For children over six years of age, 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours: for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

RYNATUSS®: Each tablet contains Carbetapentane Tannate, 60 mg.; Chlorpheniramine Tannate, 5 mg.; Ephedrine Tannate, 10 mg.; Phenylephrine Tannate, 10 mg.

Each 5 ml. (1 teaspoonful) RYNATUSS® PEDIATRIC SUSPENSIDN contains Carbetapentane Tannate, 30 mg.. Chlorpheniramine Tannate. 4 mg. Ephedrine Tannate, 5 mg.. Phenylephrine Tannate, 5 mg. CDNVENIENT B.I.D. DOSAGE for convenience and economy

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CONTRAINDICATIONS: RYNATUSS is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery

ADVERSE REACTIONS: Drowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

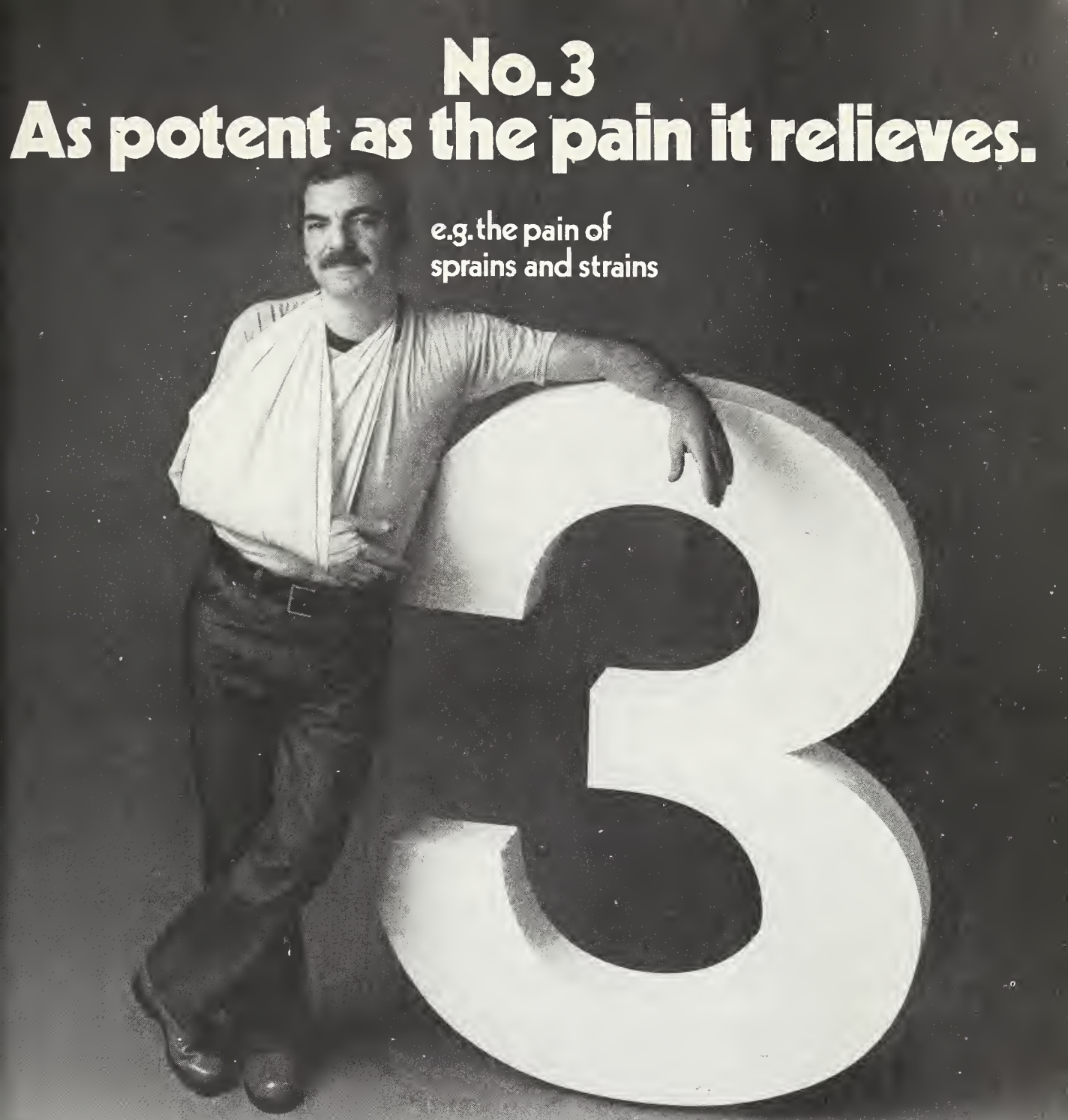
DOSAGE ANO AOMINISTRATION. RYNATUSS TABLETS: Adults—1 to 2 tablets every 12 hours.

RYNATUSS PEOIATRIC SUSPENSION: For children over six years of age. 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours: for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

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No. 3
As potent as the pain it relieves.



NOT TOO LITTLE

- as potent as the pain you need to relieve in patients with fractures, sprains, strains, wounds, contusions, and the pain of surgical convalescence
- unlike acetaminophen/codeine combinations, it does not sacrifice anti-inflammatory action

NOT TOO MUCH

- potent—yet not excessive
- addiction liability low

NOT TOO EXPENSIVE

- brand-name quality, yet reasonable in cost
- readily available in both hospital and local pharmacies

CII CONVENIENCE

- telephone Rx in most states, up to 5 refills in 6 months at your discretion (where state law permits)

EMPIRIN® COMPOUND WITH CODEINE NO. 3

codeine phosphate* (32.4 mg) gr ½
Each tablet also contains: aspirin gr 3½, phenacetin gr 2½, caffeine gr ½. *Warning–may be habit-forming

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Effectiveness across the spectrum of most common forms of insomnia

Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

- Awake
- REM
- Stage 1
- Stage 2
- Stage 3
- Stage 4



Awake too long

Awake too often during the night

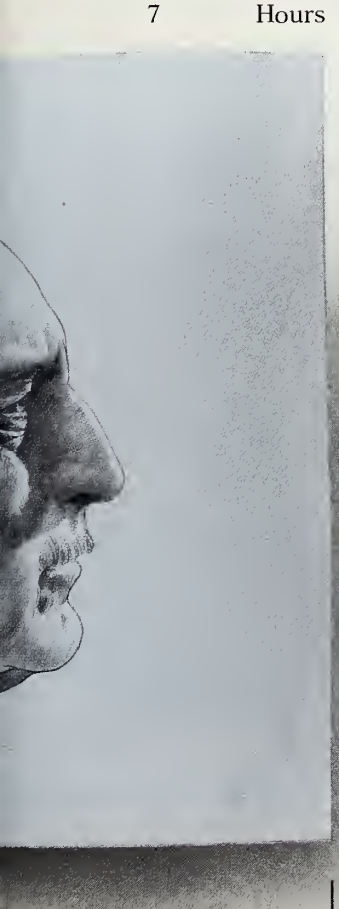
The insomnias most often occurring in young and older adults

For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories.[1-4]

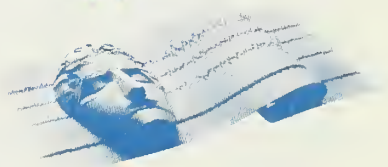
The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia



Awake too early



Dalmane®
(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

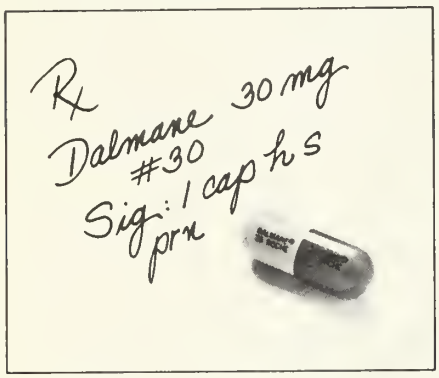
- □ induces sleep rapidly
- □ reduces nighttime awakenings
- □ lengthens total sleep time

ROCHE

Please see following page for a summary of complete product information.

Broad-spectrum medication for the most common forms of insomnia

Dalmane®
(flurazepam HCl) ℞ IV



Objectively proved in the sleep research laboratory, Dalmane

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971
2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medical Association, Houston, Apr 26-29, 1971
3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ
4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ



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adjunctive therapy for wound debridement

HELPS TO REMOVE:

- Necrotic Tissue and Associated Odor

HELPS PREPARE WOUND FOR:

- Granulation/Healing
- Granulation/Grafting



CLEANSE WOUND
Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound MUST be cleansed of antiseptics or heavy-metal antibacterials.



THOROUGHLY MOISTEN
Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g., sodium chloride or water solutions).



APPLY ENZYME
Apply a layer of TRAVASE Ointment. Assure intimate contact with necrotic tissue and complete wound coverage.

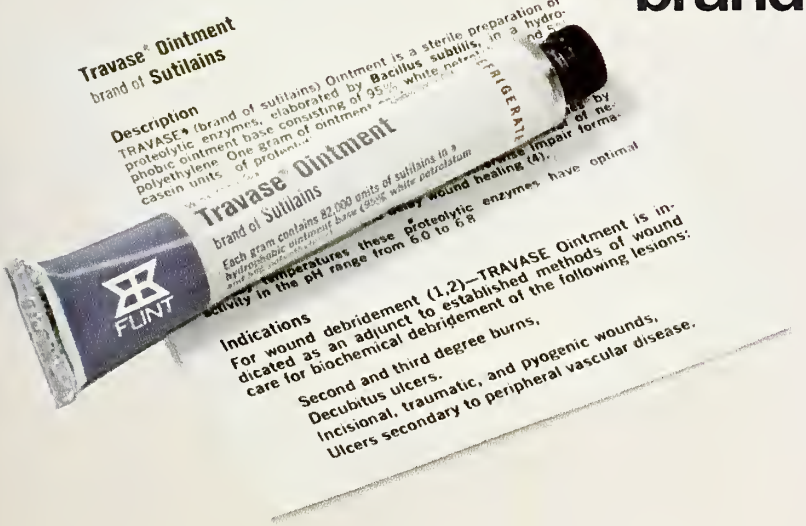


APPLY MOIST DRESSING
Apply loose moist dressings (most important with dry leathery eschar).



CHANGE DRESSINGS
When changing dressing, gently wipe away the dissolved material. Repeat the procedure, including application of TRAVASE Ointment, 3 to 4 times per day for best results.

Travase® Ointment
brand of Sutilains



Indications
For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:
Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

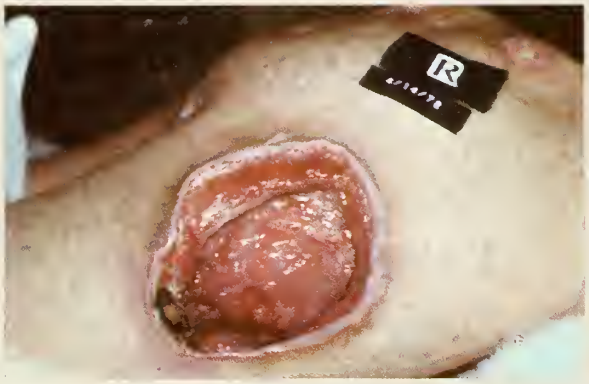
FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

Please see next page for prescribing information.

Travase Ointment brand of Sutilains

ulcers

TERRY V. CARLE, M.D., CLINICAL INSTRUCTOR, DEPT. OF PHYS. MED. & REHAB., CRAIG REHABILITATION HOSPITAL, UNIVERSITY OF COLORADO



Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.



After six days of TRAVASE therapy, debridement is nearly complete and granulation evident.

burns

DALE B. DUBIN, M.D., DIPLOMATE, AMERICAN BOARD OF PLASTIC SURGERY, TAMPA, FLORIDA



Before treatment . . .



48 hours following treatment with TRAVASE Ointment on right hand; left hand is control.

Travase® Ointment

(brand of Sutilains)

Indications: For wound debridement, TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

- Second and third degree burns,
- Decubitus ulcers,
- Incisional, traumatic, and pyogenic wounds,
- Ulcers secondary to peripheral vascular disease.

Contraindications: Application of TRAVASE Ointment is contraindicated in the following conditions:

- Wounds communicating with major body cavities,
- Wounds containing exposed major nerves or nervous tissue,
- Fungating neoplastic ulcers,
- Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

Warning: Do not permit TRAVASE Ointment to come into contact with the eyes. If contact is made, immediately rinse with copious amounts of water, preferably sterile.

Precautions: A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents (see package insert). Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

Adverse Reactions: Consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

If bleeding or dermatitis occurs as a result of the application of TRAVASE Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

DOSAGE AND ADMINISTRATION: STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT:

1. Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound MUST be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., hexachlorophene, silver nitrate, benzalkonium chloride, nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g. sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

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DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

LIBRIUM®
(chlordiazepoxide HCl)

FOR ALL THE RIGHT REASONS.

- prompt and specific action
- documented benefit-to-risk ratio
- three dosage strengths to meet most therapeutic needs



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.
Contraindications: Patients with known hypersensitivity to the drug.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)
Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

LIBRIUM®
chlordiazepoxide HCl/Roche
5mg, 10mg, 25mg capsules

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U. of California Medical Center
San Francisco, Calif. 94143

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(chlordiazepoxide HCl)

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chlordiazepoxide HCl/Roche

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VOL. LXXVII
NO. II

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequenc and/or severity of grand mal seizures ma require increased dosage of standard ant convulsant medication; abrupt withdraw may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under carefu

respond to one

According to her major
mptoms, she is a psychoneu-
ic patient with severe
xiety. But according to the
scription she gives of her
lings, part of the problem
y sound like depression.
is is because her problem,
hough primarily one of ex-
sive anxiety, is often accom-
nied by depressive symptom-
ology. Valium (diazepam)
n provide relief for both—as
excessive anxiety is re-
ved, the depressive symp-
ns associated with it are also
en relieved.

There are other advan-
ges in using Valium for the
nagement of psychoneu-
ic anxiety with secondary
pressive symptoms: the
ychotherapeutic effect of
lium is pronounced and
id. This means that im-
ovement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) ℞

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

veillance because of their predisposi-
n to habituation and dependence. In
gnancy, lactation or women of child-
aring age, weigh potential benefit
inst possible hazard.

cautions: If combined with other psy-
otropics or anticonvulsants, consider
efully pharmacology of agents em-
yed; drugs such as phenothiazines,
rcotics, barbiturates, MAO inhibitors
d other antidepressants may potentiate
action. Usual precautions indicated in
ients severely depressed, or with latent
ression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Nutley, New Jersey 07110

Volume LXXVII, Number 2—February, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society. Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

Editor: David E. Gray, M.D., 105 Medical Arts Bldg., Topeka 66604.

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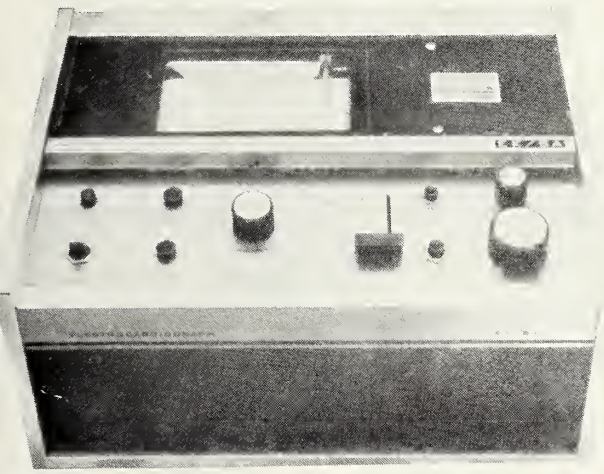
Associate Editors: Jesse D. Rising, M.D., Kansas City; D. Cramer Reed, M.D., Wichita.

Managing Editor and Advertising Manager: Val Braun, 1300 Topeka Avenue, Topeka 66612.

Business Manager: Jeremy Slaughter, 1300 Topeka Avenue, Topeka 66612.

The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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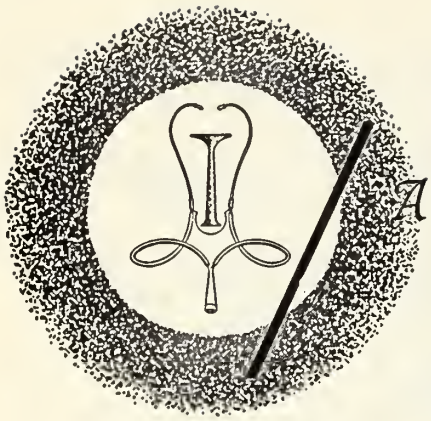
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Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. *Notice of the session is posted in advance to allow the physician time to make preparations.*

FEBRUARY

Feb. 20-21 — Challenges of Ambulatory Care of Tuberculosis, Hilton Hotel, Baltimore. INFO: Sheldon Elman, Baltimore City Health Dept., Division of Tuberculosis Control, 111 N. Calvert, C-232, Baltimore 21202.

Feb. 27 — American College of Physicians Kansas Regional Meeting, Plaza Holiday Inn, Wichita. INFO: John L. Morgan, M.D., 919 West 12th, Emporia 66801.

MARCH

Mar. 1-5 — Aspen Radiology Annual Conference, Aspen. INFO: E. Salzman, M.D., Beth Israel Hospital, Denver 80204.

Mar. 4-6 — Central Surgical Association, Holiday Inn, Rochester. INFO: A. J. Walt, M.D., 540 E. Canfield, Detroit 48201.

Mar. 5-6 — ACP Missouri Regional Meeting, St. Louis, MO. INFO: T. W. Burns, M.D., University of Missouri School of Medicine, Columbia, MO 65201.

Mar. 8-12 — Radioassay Techniques Training Course, San Diego. INFO: N. C. Karpin, 9650 Rockville Pike, Bethesda 20014.

Mar. 11-13 — Gynecologic Endocrinology, Univ. of Tennessee Center for Health Sciences, Hilton Inn-Memphis Airport. INFO: J. R. Givens, M.D., 800 Madison Ave., Memphis 38163.

Mar. 25-27 — Clinical Neuro-Otolaryngology, Pittsburgh. INFO: S. N. Busis, M.D., Eye and Ear Hospital, Pittsburgh 15213.

Mar. 27-31 — American Society of Abdominal Surgeons, Pick Congress Hotel, Chicago. INFO: B. F. Alfano, M.D., 675 Main, Melrose, MA 02176.

APRIL

Apr. 3 — *Intestinal Bypass,* Wichita, KS. INFO: Lin Bertsch, Center for Educational Development, College of Health Related Professions, Wichita State University, Wichita, KS 67208.

Apr. 4-9 — American College of Allergists, Las Vegas Hilton, Las Vegas. INFO: E. Bauers, 2100 Dain Tower, Minneapolis 55402.

(Continued on page 75)

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Trusses

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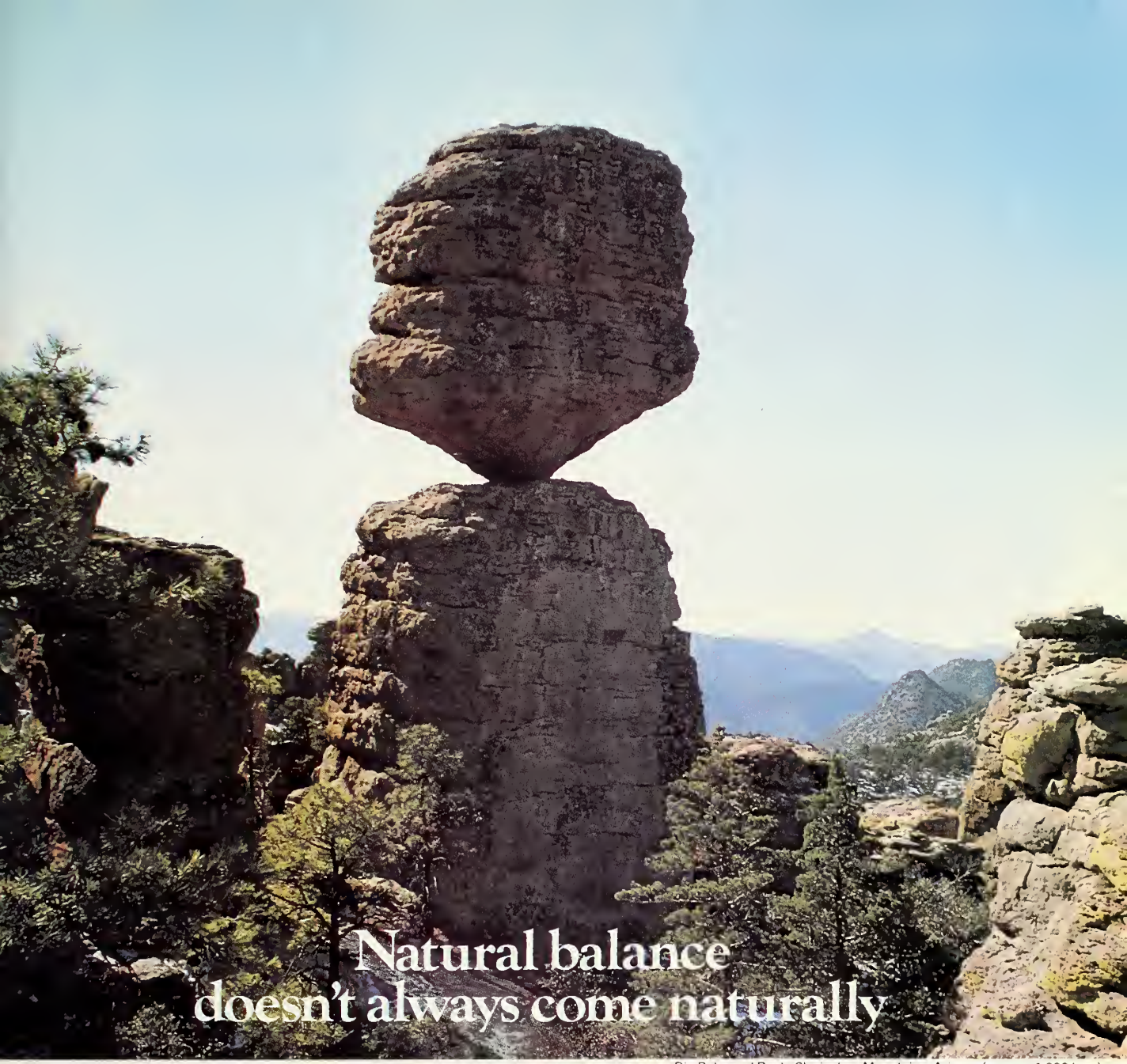
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- Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
- Can relieve nausea and vomiting often associated with vertigo.*
- Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
- Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
- Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
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Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

VISUAL FOCUS ON ACUTE GOUTY ARTHRITIS



Foot of patient with acute gouty arthritis as seen by conventional x-ray.



Scintiphotogram of same foot reflects inflammatory process.

The scintiphotograph on the right shows increased uptake of radiotechnetium polyphosphate in the metatarsophalangeal joint and the proximal interphalangeal joint of the great toe of a patient with acute gouty arthritis. This increased uptake probably results from increased vascularity in the affected areas.

For a more detailed description of scintiphotography, see "addendum" at right.

THERAPEUTIC FOCUS ON

CAPSULES, 25 mg and 50 mg

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helps relieve pain and other symptoms of inflammation in acute gouty arthritis in selected patients

INDOCIN is a potent drug with anti-inflammatory, antipyretic, and analgesic properties. It should not be used in conditions other than those recommended. Although INDOCIN does not alter the progressive course of the underlying disease, in selected patients with acute gouty arthritis it has been found highly effective in relieving pain and in reducing fever, swelling, and tenderness.

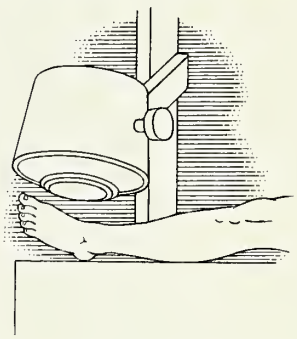
MSD
MERCK SHARP & DOHME

For a brief summary of prescribing information, please see following page.

addendum

MSD
MERCK SHARP & DOHME

Facts about Scintiphotography



In recent years a variety of radiopharmaceuticals have been employed to aid in the diagnosis of bone and joint disorders. The joint-imaging technique consists of injecting technetium polyphosphate intravenously, and imaging is performed with the scintillation camera two hours after the administration of the radionuclide. In general, for joint surveying, the shoulders, elbows, hands, wrists, knees, ankles, feet, and vertebral column are mapped. The entire scanning process takes approximately one hour. The criterion for a positive image is a higher concentration of radioactivity in a joint region than in adjacent nonarticular bone. In effect, each patient serves as his own control.

INDOCIN®
(INDOMETHACIN | MSD)



helps relieve pain
and other symptoms
of inflammation
in acute
gouty arthritis
in selected patients

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended. The drug should not be prescribed for children because safe conditions for use have not been established.

Because of the high potency of the drug and the variability of its potential to cause adverse reactions, the following are strongly recommended: 1) the lowest possible effective dose for the individual patient should be prescribed. Increased dosage tends to increase adverse effects, particularly in doses over 150-200 mg per day, without corresponding clinical benefits; 2) careful instructions to, and observations of, the individual patient are essential to the prevention of serious and irreversible, including fatal, adverse reactions, especially in the aging patient.

Contraindications: Children 14 years of age and under; pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin or indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.

Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.

Central Nervous System Effects: INDOCIN may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS adverse reactions develop, discontinue the drug.

Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; rarely, intestinal ulceration has been associated with stenosis and obstruction; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis, which may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.

Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.

Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.

Hematologic Reactions: Aplastic anemia, hemolytic anemia, bone marrow depression, agranulocytosis, leukopenia, and thrombocytopenic purpura. Since some patients manifest anemia secondary to obvious or occult gastrointestinal bleeding, appropriate blood determinations are recommended.

Hypersensitivity Reactions: Acute respiratory distress, including dyspnea and asthma; angiitis; pruritus; urticaria; angioedema; skin rashes; purpura.

Ear Reactions: Hearing disturbances, deafness, tinnitus.

Central Nervous System Reactions: Psychic disturbances including psychotic episodes, depersonalization, depression, and mental confusion; coma; convulsions; peripheral neuropathy; drowsiness; lightheadedness; dizziness; syncope; headache.

Cardiovascular-Renal Reactions: Edema, elevation of blood pressure, hematuria.

Dermatologic Reactions: Loss of hair, erythema nodosum.

Miscellaneous: Rarely, vaginal bleeding, hyperglycemia, glycosuria, ulcerative stomatitis, and epistaxis.

Note: In patients receiving probenecid, plasma levels of indomethacin are likely to be increased.

Supplied: Capsules containing 25 mg indomethacin each, in single-unit packages of 100 and bottles of 100 and 1000; capsules containing 50 mg indomethacin each, in single-unit packages of 100 and bottles of 100.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

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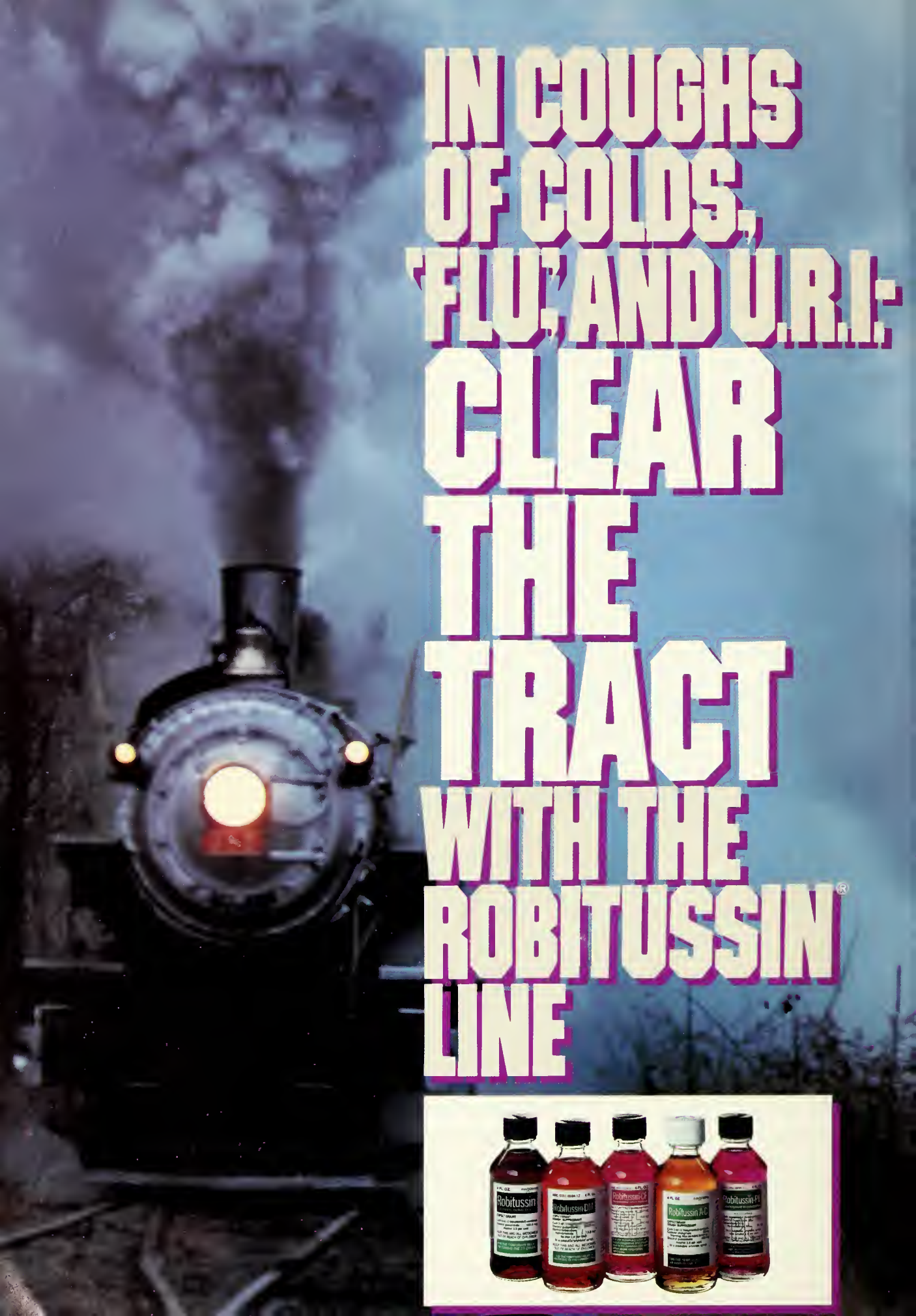
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Each 30 cc. contains:	
Kaolin	6.0 g.
Pectin	142.8 mg.
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Atropine sulfate	0.0194 mg.
Hyoscine hydrobromide	0.0065 mg.
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(warning: may be habit forming)
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Non narcotic for 6-8-hr. cough control

ROBITUSSIN-DM®

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Alcohol, 1.4%

Decongests nasal passages and sinus openings as it helps relieve coughs

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Each 5 ml teaspoonful contains:
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Pseudoephedrine** Hydrochloride, NF..... 30 mg
Alcohol, 1.4%
**Formerly contained Phenylephrine Hydrochloride 10 mg

Decongestant action helps control cough and clear stuffy nose and sinuses. Non narcotic.

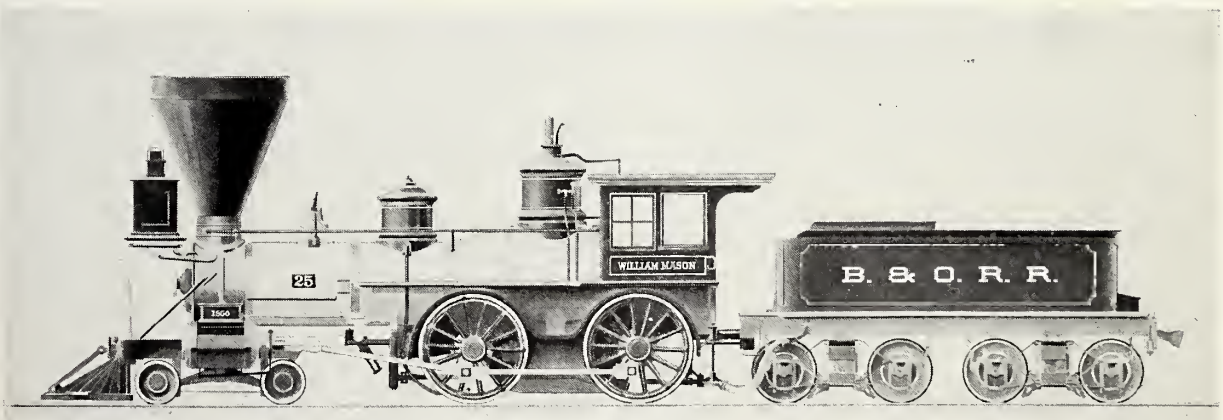
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The William Mason (1856)

Obituaries

SYLVA D. LOFGREEN, M.D.

Dr. Sylva D. Lofgreen, 77, died December 22, 1975, at her home in Ottawa. She was born in Norton County on October 4, 1898.

Dr. Lofgreen was graduated from the University of Kansas School of Medicine in 1932. She practiced medicine in Ottawa from 1933 until her retirement in 1965.

Surviving are her widower and a son. Memorial contributions may be made to the Arthritis Foundation.

ORVILLE A. McDONALD, M.D.

Dr. Orville A. McDonald died December 31, 1975 at the age of 90, in New Port Richey, Florida. He was born September 16, 1885, in Chapman.

After graduating from the Kansas Medical College of Topeka in 1910, Dr. McDonald practiced medicine in Topeka until his retirement in 1960. He moved to Florida in 1969.

Survivors include a son and a daughter. Memorial contributions may be made to St Francis Hospital in Topeka.

LLOYD E. PECKENSCHNEIDER, M.D.

Dr. Lloyd E. Peckenschneider, 77, of Halstead, died December 30, 1975. He was born January 3, 1898, in Davenport, Iowa.

Dr. Peckenschneider received his medical degree from the University of Iowa College of Medicine, in 1924. From 1930 to 1962, he was chief of medicine at The Hertzler Clinic and Halstead Hospital. He also served as chief of staff at Halstead Hospital, served on the board of directors of the Hertzler Clinic, and was a member of the Hertzler Research Foundation.

Surviving Dr. Peckenschneider are two daughters and a son. Memorial contributions may be given to the Harvey County Heart Association.

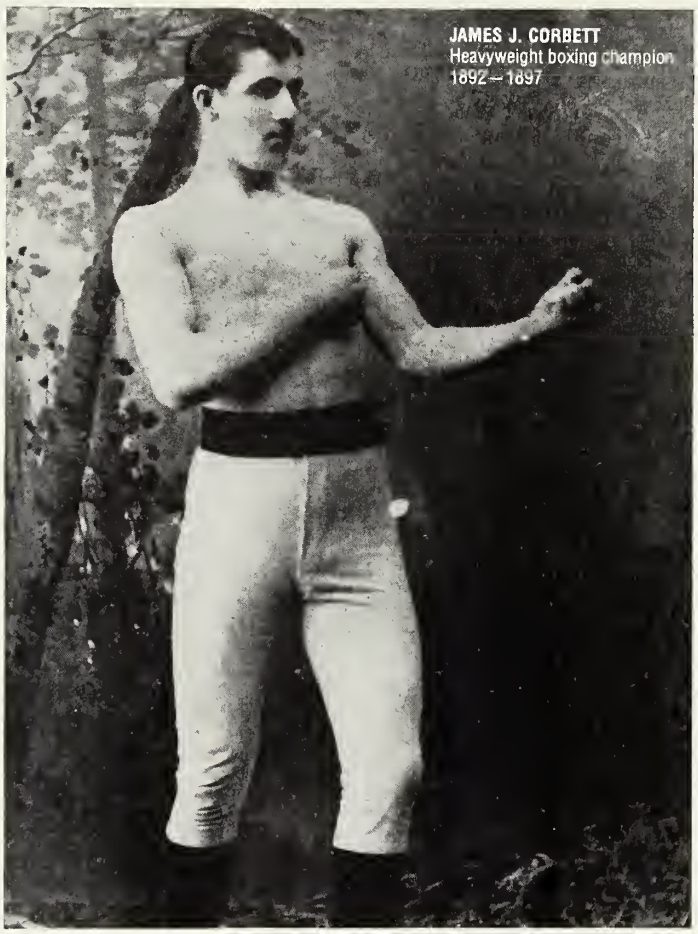
F. I. STUART, M.D.

Dr. F. I. Stuart, of Atchison, died December 25, 1975, at the age of 90. He was born in Walnut, Iowa, on August 8, 1885.

Dr. Stuart received his medical degree from Creighton University School of Medicine in Omaha, in 1908. After practicing medicine in Kansas City from 1919 to 1935, Dr. Stuart moved to Atchison, where he practiced until his retirement in 1971.

His widow and six children survive him.

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Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

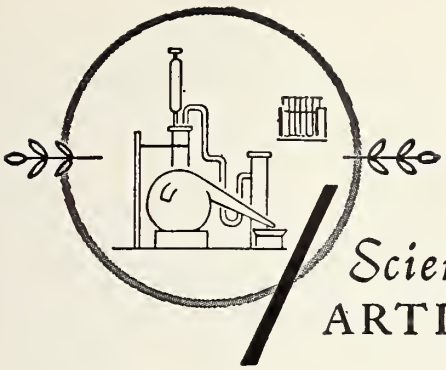
12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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Scientific ARTICLES

Cardiac Pacemakers

Experience with Implantation

DON R. MILLER, M.D., ***Irvine, California***

The development of effective artificial cardiac pacemakers has permitted continued, comfortable life for a large population with heartblock, for which medical treatment has been unsatisfactory because of the associated mortality rate. The purpose of this study was to retrospectively review and report the author's experience with implanted cardiac pacemakers in 109 consecutive patients treated during the 10-year period 1963-1973 at the University of Kansas Medical Center.

EARLY EXPERIENCE utilized the General Electric pacemaker system with epicardial leads. However, the fine caliber of the wire leads caused early wire fracture in many patients. One of these generators was used continuously throughout the period of this study.[1–4]

The helical coil myocardial electrode of Chardack[5] and Medtronic pacing units were introduced in 1963, and continued throughout the period of study. From 1963 to 1967, only the epicardial type of pacemaker system was available, and this was used in 14 patients during that period. Since the first transvenous models became available in 1967, 59 transvenous and 36 transthoracic units have been placed. Thirteen transvenous units were converted to epicardial application because of myocardial perforation, failure of consistent pacing, or local wound problems. A single epicardial system was converted to the transvenous type because of wire failure.

Five transvenous unipolar Cordis Stanicor units with Elema EMT 588 endocardiac electrode were used late in the study period.

Patient Group

Of the 109 patients, 61 were males and 48 were females *(Table 1)*. The ages ranged from 25 to 92 years, with a mean of 68.6 years. Most patients were 60 to 70 years of age.

All patients were completely evaluated as to their general and cardiovascular status by members of the staff of internal medicine service and the surgical staff. Management of heart-block was carried out with the cooperative efforts of these services. In addition to the arrhythmia, most of the older patients had other manifestations of cardiovascular disease which required careful drug therapy.

Ninety-two patients were operated upon primarily, and 17 had had previous operations to institute pacing. There have been a total of 232 pacemaker-related operations in these 109 patients.

Indications for Operation

The majority of patients were operated upon because of one or more syncopal episodes associated with severe bradycardia. Evidence of congestive heart failure was

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TABLE I

PERMANENT CARDIAC PACEMAKERS—
109 PATIENTS
1963-1973

Males	61
Females	48
Patients for primary operation	92
Patients for secondary operation	17
Total	109
Total operations	232
Transthoracic approach	50
Transvenous approach	59
Conversion transvenous to transthoracic	10
(+ Primary Operation Elsewhere)	3
Conversion transthoracic to transvenous	1

TABLE II

ELECTROCARDIOGRAPHIC DIAGNOSES

Complete AV dissociation	81
2° heart block	9
1° heart block	9
Right bundle branch block	9
Ventricular tachycardia	7
Left bundle branch block	5
Slow atrial fibrillation	4
Nodal rhythm	3
Bilateral bundle branch block	3
Sinus arrest	3
Wenckebach phenomenon	3
Atrial flutter	2
Supraventricular tachycardia	1

present in many patients, with varying degrees of success with the usual methods of medical treatment. Weakness, fatigue, and dizziness were frequent complaints in several patients. The cause of heart-block was usually septal atherosclerosis, and permanent pacing was not required in any post-myocardial infarction block. Two patients had pectoral or diaphragmatic stimulation as an indication for operation. One patient had post-surgical block. Only one patient, an elderly man with severe bradycardia of 40, was asymptomatic, and a pacemaker was employed prophylactically. One patient developed supraventricular tachycardia when digitalized to correct congestive failure, and permanent pacing was used to permit digitalization. Electrocardiographic diagnoses recorded are listed in *Table II*. Complete A-V dissociation was present in 81 patients. Various other arrhythmias initially recorded included first and second degree block, ventricular tachycardia, bundle branch block, and others. Sinus arrest was observed in three instances in this series.

Selection of Operation and Operative Approach

Until transvenous models were available, epicardial pacemakers were placed transthoracically through an anterior thoracotomy which exposed the left ventricular apex. The electrodes were sewn in place on the accessible left ventricular myocardium, and covered by a patch of dacron cloth reinforced by the overlying pericardium. Wires were placed subcutaneously, and the power unit was placed in a subcutaneous pocket overlying the upper abdomen. In most patients, temporary pacing was employed during the operation using an external unit and an intracardiac electrode. Meticulous attention was paid to the development of the pocket, using strict asepsis, gentle handling of wound edges, a pocket of adequate size with routine suction drainage for three to five days, and a soft supportive dressing. Subcutaneous tissues were closed in two layers, and the skin was closed with interrupted vertical mattress sutures.

Antibiotics were prophylactically used in all patients. No local antibiotics were employed. Transvenous pacemakers were placed with the patient in the cardiac catheterization laboratory, with the assistance of fluoroscopy and a monitoring oscilloscope, by a team composed of a cardiologist and surgeon. The external or internal[6] jugular vein was exposed above the clavicle or, occasionally, the cephalic vein, under local anesthesia, and the power unit placed subcutaneously over the pectoral fascia.

Epicardial leads were initially used exclusively, until transvenous electrodes were available. The ease of insertion and simpler approach of this technique rapidly present in many patients, with varying degrees of sucreplaced the transthoracic approach, which continued to be used in younger individuals and those in whom pacing could not be maintained by an intracardiac electrode. The long term reliability of the epicardial lead had been established.

Types of Operation

The various operative procedures used are listed in *Table III*. Slightly over one-half were transvenous insertions. Elective power unit replacement, or change of failing or failed pulse generator accounted for over one-half of the operations. Manufacturer's recommendations were used for selection of the time for replacement. Reasons for conversion of transvenous to epicardial pacer related to myocardial perforation of the endocardial electrode in five patients, and migration of

TABLE III

TYPES OF OPERATION

Primary insertion	
Epicardial	43
Transvenous	49
Power pack change	101
Conversion TV to epicardial	13
Reverse polarity or unipolar conversion	8
Manipulation of TV electrode	5
Short circuit resistor	5
Repair wires	3
Wound revision	2
Remove pacemaker	1
Revise extruding wire	1
Conversion epicardial to transvenous	1
Total	232

the electrode with failure to pace in three patients. Manipulation of the lead in a second operation was often unsuccessful. Several operations were done when wire failure resulted. These consisted of splicing broken wires, or converting one wire to an indifferent electrode and pacing through the remaining lead. Wire failure was the reason for the sole conversion of epicardial to transvenous pacing.

Surgical Mortality

Although of greater magnitude than the transvenous approach, anterior thoracotomy for epicardial electrode implantation was well-tolerated even in elderly patients. Two deaths occurred; neither related to pacemaker function. One death occurred two days postoperatively from silent mitral stenosis and an occlusive left atrial clot, and the other, seven days postoperatively, was caused by a massive pulmonary embolus. A temporary femoral pacing catheter had been in place for seven days. The surgical mortality was 3.4 per cent and 6 per cent respectively for transthoracic and transvenous approaches.

Three deaths resulted during or following transvenous electrode placement: one from cardiovascular collapse during the procedure, and two from myocardial infarction 12 hours and 5 days after pacemaker implantation. There were no deaths among the group in which the transvenous electrode perforated the right ventricle postoperatively, and these were subsequently converted to epicardial pacings.

Followup in July 1973 showed there were six late deaths in the transvenous group, and nine deaths in the epicardial group. Four patients were lost to followup and were presumed dead, with a resulting late mortality rate of 18 per cent. The causes of death are listed in *Table IV*. Three deaths were believed related to pacing, while six may have been related to pacing. Seven deaths resulted from causes unrelated to pacing.

TABLE IV

LATE DEATHS—PACEMAKERS

104 Patients—1973

	Pacer Related
Transthoracic—9 Patients	
1 month—unrelated	–
2 months—tachyarrhythmia	+
13 months—unrelated	–
24 months—run-away pacemaker	+
48 months—myocardial infarction	–
48 months—uremia	±
60 months—congestive heart failure	–
60 months—heart attack	±
72 months—cause undetermined	±
Transvenous—6 Patients	
1 month—cause undetermined	±
1 month—cause undetermined	±
2 months—intermittent pacing	+
6 months—congestive heart failure	–
14 months—congestive heart failure	–
36 months—hepatitis	–

Complications

The incidence of complications is shown in *Table V*. In 12 instances, there was early or late failure in pacing. This was related to a variety of causes, including

TABLE V

COMPLICATIONS

Failure to pace	12
Wire failure	12
Perforation RV	5
Hematoma	4
Pneumonia	4
Congestive heart failure	3
Arrhythmia	3
Competition	3
Skin erythema or penetration	2
Myocardial infarct	2
Postcardiotomy syndrome	2
Fever	2
Flap necrosis	1
Wound separation	1
GI bleeding	1
Pulmonary embolus	1
Skin erosion	1
Improper sensing	1
Infection	0

power unit failure, migration of leads, and insufficient output from the pulse generator. This complication is a serious one since many patients are totally dependent on the pacemaker.[7] In spite of this, there were no hospital deaths related to this cause. Prompt resuscitation and emergency temporary pacing was required in several instances.

Patients with pacing failure were always hospitalized and studied with electrocardiography and radiographic studies to determine wire integrity or electrode displacement. Temporary pacing was established when needed prior to reestablishment of permanent pacing.

Wire failure in early General Electric models led to the use of Chardack[5] helical coil myocardial electrode. This has been a most reliable electrode. In the manner employed, not a single early or remote failure or displacement occurred at the site of application on the myocardium. The few fractures observed usually occurred near the power unit or in crossing the costal margin. Radiologic identification of the break was usually possible, and by conversion to a unipolar unit pacing was usually reestablished. The improved 6914 bipolar myocardial lead, utilizing six strands of platinum, failed in two cases in early use. The absence of radiologic evidence of the defective lead led to an erroneous assumption that the power unit had failed. Conversion to unipolar systems corrected the failure, but the precise cause of the failure was obscure.

The Elema unipolar EMT 588 lead had the advantages of small caliber and ease of insertion, but a high rate of failure was observed in the few cases in which it was used. Increased current thresholds soon after insertion resulted in failure.

Perforation of the right ventricle by the endocardial electrode has been commonly reported, and occurred in five patients in this series.[7, 8] This was usually recognized within a few days after the insertion, but occurred six weeks postoperatively in one patient, and was manifested by failure, intermittent pacing, or chest wall stimulation. An abnormal electrode tip position was usually evident on the chest film.

Conversion to epicardial pacing was done in each instance without death or serious complication. The perforation was not associated with significant hemopericardium and the orifice was easily sutured closed after withdrawing the electrode.

Wound complications in primary insertions were few. Four wound hematomas were aseptically evacuated without further complication. Wound separation in one pocket, early in the series, occurred three weeks after the patient returned to excessive activity. This led to the use of two-layer subcutaneous closure in subsequent operations. Another wound developed central necrosis of the lower wound margin in a pocket which had been developed inferior to the incision, and was believed to impair blood supply. Therefore, a pocket with equal upper and lower skin flaps, which provided a more supple skin closure with less tension and better blood supply to the lower wound margin, was used. This type of incision provides better access to the attached electrodes than other incisions.[9] Each of these wound problems was managed by reoperation, mobilization of the power unit to a new adjacent area beneath normal skin, and drainage of the first pocket. A sliding skin flap was used to replace the area of skin necrosis. Only three other primary pocket erosions were encountered, one with brassiere pressure in a patient with senile dementia, and another associated with an applied dressing to support the pacemaker. No infections were seen after any primary operation. The small incidence of wound complications is believed to be related to the meticulous attention to making the pocket of adequate size, and to careful wound handling and closure.

Patients tolerated thoracotomy well, and there were few complications related to it. Severe arrhythmias were not observed postoperatively, although there were few cases with competing rhythm, and no death was believed to be related to this cause. Demand units became the routine choice for pacing in most patients, once they were available.

Comments

The field of pacemaker control of heart-block has shown marked progress in the past ten years. Improvements in pacemaker and electrode design have achieved remarkable success in increasing the longevity of the pulse generator, and are being widely applied to treat other types of arrhythmia, including atrial arrhythmias, with increasing modifications to build in safety features.[10–15]

The transvenous approach has the appeal of a local minimal operative procedure which avoids the disadvantages attendant with thoracotomy and direct application of epicardial electrodes. The price is the loss of long-term stability of the epicardial application, which has been evident in all of the patients in this report. Although the mortality of application in this series favored the epicardial approach, the advantages of the transvenous method have resulted in a rather universal shift to use this approach as the primary application, particularly in the older, poor-risk group, but even in younger individuals.[16] Mortality statistics have been excellent in large series, and long-term complications of the intra-cardiac catheter, although often serious, have been less than expected. Displacement of the electrode

and failure to pace remains a most difficult problem. The availability of "screw in" electrodes[17] has provided an acceptable compromise, which permits the stability of an epicardial electrode but with only limited epigastric or parasternal surgical exposure.

Complications at the site of the pulse generator, particularly infection, continue to disturb an otherwise successful pacing system. Most of these complications can be avoided by meticulous attention to wound management.[18]

Summary

A ten-year experience of permanent cardiac pacing was reviewed retrospectively. There were 109 patients, with a total of 232 pacemaker related operations. Epicardial and transvenous approaches were used in approximately equal numbers. Transvenous pacing was converted to epicardial in 13 patients, because of myocardial perforation or displacement of the endocardial electrode. The hospital mortality rate was 3.4 per cent for epicardial application, and 6 per cent for the transvenous route. The late mortality rate was 18 per cent. There were no primary pacemaker infections, and minimal wound problems were believed to be related to careful wound handling, adequate pocket size, and prophylactic antibiotics.

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CONTINUING MEDICAL EDUCATION

Category I Credit:

March 12—Shawnee County Medical Foundation: *Seminar on Shock* (6 hrs), St. Francis Hospital, Topeka, 8:30 AM-4:00 PM. No fee. INFO: Ted Warren, Ph.D., Education Coordinator, 1500 West 10th, Topeka 66604.

Worrisome Polyps

Fiberoptic Colonoscopic Polypectomy

RICHARD M. SKIBBA, M.D., WILLIAM A. HARTONG, M.D., *and* ARTHUR P. KLOTZ, M.D., *Kansas City, Kansas*

COLONIC POLYPS can be found in 40 per cent of adults. Approximately one-third of those polyps are located within reach of the rigid sigmoidoscope.[1] Thus, until the recent introduction of fiberoptic colonoscopic polypectomy,[2] removal of most colon polyps required laparotomy and colotomy. Since June 1973, 33 transcolonoscopic polypectomies have been performed by the Gastroenterology Division, Department of Medicine, at the University of Kansas Medical Center.

Technique

Polypectomy was attempted only after an overall experience with over 100 diagnostic colonoscopies. Patients were prepared in the same manner as for diagnostic colonoscopy, with three days of liquid diet and catharsis. All patients, except four, either were in the hospital or were admitted for 48 hours. A prothrombin time, partial thromboplastin time and platelet count were obtained, but a type and crossmatch for potential transfusion was not routine.

The 186 cm CF-LB Olympus colonoscope was used, and colonoscopy was performed in the same manner as for diagnostic procedures. A vigorous attempt to reach the cecum for total colon inspection was always made because of the high frequency of multiple polyps in patients having such lesions.[1]

The polyps were resected by advancing a wire snare through the biopsy channel of the colonoscope and placing it around the stalk, or base, of the polyp. An electric current that produces both cutting and coagulation was applied as the wire loop was closed. The apparatus used was the model 80-7910 Cameron-Miller coagulator, and an electrosurgical snare described by Wolff and Shinya.[2] The electrosurgical principles and precautions outlined by Curtiss[3] were followed.

The proximal lesion was resected first if more than one polyp was detected. Immediately after the polyp fell into the lumen, it was retrieved with the colonoscope by applying gentle suction, and then both were withdrawn and the polyp placed in formalin. The instrument was then reinserted, the polypectomy site inspected, and distal examination or polypectomy performed if necessary. Because of the failure to recover four polyps by administering enemas and inspecting the stool, we have abandoned that method of polyp recovery.

Results of 126 colonoscopic polypectomies are presented. The importance of this procedure in detection and prevention of early colon cancer is stressed.

Results

A total of 126 colonoscopies were performed during the time interval reviewed. Thirty-two of the procedures were for polyps detected by barium enema (BE). Thirty-three polyps were resected from various areas of the colon of 18 patients *(Table 1)*. Of these, 22 (67%) were located above the reach of the rigid sigmoidoscope which we defined as 25 cm for adults and 15 cm for children under 10 years of age. Twenty-three (69%) of the polyps were pedunculated. No polyp was found at colonoscopy in six patients, and polypectomy could not be accomplished for a variety of reasons in seven pa-

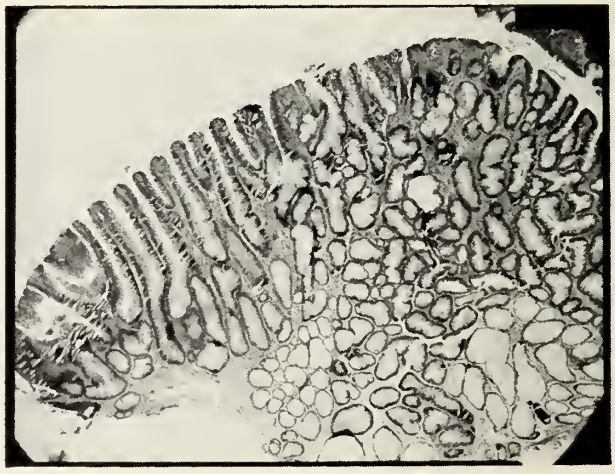


Figure 1. Mixed polyp with both villous and adenomatous components.

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TABLE I

ANATOMIC DISTRIBUTION OF 33 COLON POLYPS

	No.
Sigmoid Colon	
Below 25 cm	11
Above 25 cm	14
Descending colon	1
Transverse colon	3
Ascending colon	2
Cecum	2
	33

tients *(Table II)*. The criteria outlined by Morson[4] were utilized in the histologic classification of the lesions. Of 29 polyps recovered *(Table III)*, 12 were benign adenomas and 10 were mixed villous adenomatous lesions *(Figure 1)*. There were three juvenile polyps, two hyperplastic polyps, one lipoma, and one villous polyp. Two of the mixed villous adenomatous lesions contained noninvasive carcinoma. Both of those patients subsequently underwent sigmoid resection without any evidence of retained malignancy. Four polyps were not recovered.

Thirteen polyps were 0.5 to 1.0 cm in diameter, 13, 1 to 2 cm in diameter, and 3 were larger than 2 cm. The two malignant lesions were 1.5 cm and 0.7 cm in diameter, and both were pedunculated.

One patient required colonoscopy on three different occasions for the resection of six polyps. Two patients had three polyps, and seven patients had two lesions resected during a single procedure. One large polyp was resected in two pieces.

Fourteen polyps not detected by BE were found at colonoscopy, and eight polyps thought to be present on BE were not found by direct visualization with the colonoscope.

There were no complications.

Discussion

Colonic polyps may serve as the lead point for intussusception or they may bleed, however the vast majority are asymptomatic. For this reason, the need for colonic polypectomy is often questioned. The answer to this question lies in the acceptance of the concept that colonic polyps have a significant maligant potential. There is no disagreement about the malignant potential of villous adenomas. The incidence of carcinomatous changes has been reported to be as high as 60 per cent. The malignant potential of adenomatous polyps is more

TABLE II

REASONS FOR POLYPECTOMY FAILURE

	No. of Pt.
Unable to manipulate snare around polyp	3
Polyp too large	2
Inadequate bowel preparation	1
Patient uncooperative	1
	7

controversial, and many pathologists and clinicians disagree about such a relationship.[6, 7]

Thirty-four per cent of the polyps contained villous changes, which is in agreement with the observations of Fung and Goldman,[8] and is much higher than reported by others.[9] A recent study by Kurzon *et al.*[10] elucidated the significance of such mixed lesions with their finding of an 18 per cent incidence of carcinomatous changes in 159 mixed villous adenomatous polyps. Our 20 per cent incidence of carcinomatous changes in mixed polyps would support their conclusion that such lesions have a high malignant potential. Eight of 18 patients had mixed lesions resected, and 1 patient had a villous polyp removed. Thus, 50 per cent of our patients had malignant or premalignant lesions removed from their colons. This finding and the data presented by Kurzon justify a vigorous approach to polypoid lesions of the colon.

In the past, polypectomy high in the colon required laparotomy and colotomy, which involves a mortality rate of 1 to 2 percent,[11] and a morbidity rate of 7 to 20 per cent.[12, 13] A recent review[14] summarized the literature regarding complications of 3,850 colonoscopies and 901 polypectomies. The overall mortality rate was 0.02 per cent, with a morbidity rate of 0.42 per cent. There were no mortalities reported with polypectomy, and the morbidity rate of that procedure was found to be 1 per cent. The major complications with polypectomy were

TABLE III

HISTOLOGIC DIAGNOSIS OF 29 POLYPS

	No.
Benign adenoma	12
Mixed villous adenomatous	8
With carcinoma	2
Juvenile	3
Hyperplastic	2
Lipoma	1
Villous polyp	1

perforation (0.33%) and bleeding (0.66%). There were no deaths or complications in our series.

Explosion of colonic gas has been reported to occur during electrodesiccation of polyps through the sigmoidoscope,[15] however this complication has never been reported during colonoscopic polypectomy. It has been suggested that carbon dioxide insufflation be utilized to prevent this potential hazard.[16] However, recent studies[17] have demonstrated that explosive mixtures of gases are never found in the colon of individuals who are prepared for the procedure in a manner similar to our patients. Thus, special gas exchange in a patient with a well cleansed colon is unnecessary, since the possibility of explosion is negligible.

The cost of colonoscopic polypectomy reported from other institutions has varied from $620[18] to $1,075,[19] while transabdominal polypectomy ranged from $1,482 to $3,241. The fact that the patient feels well and is able to return to work within 48 hours atfer colonoscopic polypectomy cannot be overemphasized, and cannot be estimated in terms of dollars and cents.

It is generally accepted that once a colon polyp is detected, further inspection frequently reveals a second or third polyp.[1] This is in agreement with the finding of multiple polyps in 55 per cent of patients in our series. The high probability of finding more than one polyp and the frequent disparity between BE and direct colonoscopic visualization emphasizes the need for total colonoscopy in patients having, or suspected of having, a colonic polyp.

The incidence of bleeding and intussuception secondary to colonic polyps is low. However, the significant malignant potential of such lesions and the availability of a safe, economical colonoscopic method of polypectomy justifies an aggressive approach to such lesions. Transcolonoscopic polypectomy can now generally replace laparotomy and colotomy, except in rare instances where it is unsuccessful or contraindicated.

Summary

Thirty-three colonoscopic polypectomies have been performed in 18 patients at K.U.M.C. This procedure has proven to be effective, safe, and economical. Present evidence indicates that this procedure may have an important role in early detection and prevention of colon cancer.

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Chronic Myelomonocytic Leukemia

A Review

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LEUKEMIA has traditionally been classified into four major types, with several subclasses. The major varieties are chronic myelogenous and lymphocytic leukemias, and acute myeloblastic and lymphoblastic leukemia. Acute myeloblastic leukemia can exist both as a myelomonocytic variety and as a purely monocytic variety. The latter has been designated as the Schilling type acute granulocytic leukemia, and its probable difference from myelomonocytic or Naegeli type is only its predominant cell type.[1, 2] Some centers prefer to identify myelomonocytic leukemia only if abnormalities of megakaryocytes and erythroid elements are also present in the bone marrow.[3, 4] However, when erythroid precursors with atypical features participate in the myeloid leukemic process, the term "erythroleukemia," or "Di Guglielmo's disease," is sometimes used. Chronic myelomonocytic leukemia is probably an entity in itself, or a preleukemic manifestation, and it is being increasingly recognized.[5] One such case is presented below.

Case Report

A 78-year-old white male was admitted with complaints of acute low back pain of a week's duration. His history revealed ten months of evening rise of temperature, night sweats, chills, steady loss of 12-15 pounds of weight, and a long history of periodic cough with occasional hemoptysis. However, a diagnosis of pulmonary tuberculosis could not be substantiated. Physical examination revealed the patient to be toxic and febrile. No pallor, cutaneous or mucosal bleeding, palpable lymphadenopathy, or hepatomegaly were seen. The spleen was just palpable. An examination of the heart revealed irregularity of the rhythm, due to an atrial fibrillation of long standing. The examination of the lungs revealed no abnormalities, and no neurologic deficits in the lower extremities were found.

Laboratory data revealed the following: serum protein electrophoresis, normal; x-rays of the lumbosacral spine showed degenerative joint disease; no evidence of fractures or metastatic lesions; no active disease in the chest; IVP, normal; serum uric acid, 8-9 mg/100 ml; creatinine clearance, 28 cc/minute; tuberculin skin test results, negative; serum folic acid level, 4.1 ng; B12 levels in the serum were elevated to approximately 2,000 picograms; unsaturated B12 binding capacity was not determined; leukocyte alkaline phosphatase, 167 counts (normal, 75-230); urinary excretion of muramidase, 268 mcg/ml (normal, 2mcg/ml).

On numerous determinations, the patient's hemoglobin reading stayed around 11 gm/100 ml throughout his hospital stay. The red cells in peripheral blood showed slight anisocytosis and poikilocytosis. Nucleated RBCs and early myeloid cells were seen in small numbers in peripheral blood. However, no blast cells were seen in peripheral blood at any time. The total monocyte count ranged from 4,005-25,185 cu/mm. The platelet count averaged 60,000-65,000. The reticulocyte index was low for the level of hemoglobin. The bone marrow showed hypercellularity with marked increase in myeloid activity. Most of the cells were myelocytes, but a significant number of myeloid precursor cells were monocytoid, showing nucleoli and large nuclei with lacey chromatin. Megakaryocytes were normal to slightly reduced. Erythroid activity was slightly depressed and predominantly normoblastic, although a few megaloblastoid cells were seen.

With the repeated absence of blast cells in the peripheral blood, a reasonable number of polymorphonuclear leukocytes in the peripheral blood and no progression of anemia, the patient was thought to be either a case of smoldering leukemia or chronic myelomonocytic leukemia. All forms of chemotherapy for leukemia were initially withheld and the patient was observed while treatment was carried out for urinary tract and pulmonary infection. Later, the patient was given a trial treatment with Prednisone. No appreciable result was noted with this treatment, other than some return of general well-being, and disappearance of malaise, sweats, and evening rise of temperature. The expected rise in platelet count was not noted with the Prednisone treatment. The patient was then discharged from the hospital on a tapering dose of Prednisone. On his last visit to the hospital, his condition was stable and Prednisone had been withdrawn completely. His blood count continues to show absolute monocytosis, thrombocytopenia, and mild normocytic anemia.

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Discussion

From the characteristics of presentation and clinical manifestations, the case described seemed to fit best the picture of chronic myelomonocytic leukemia (CMML).[5] Monocyte cells were in peripheral blood, whereas in the bone marrow the predominate cell type was immature myelocytes and monocytes. The course of illness in this patient was chronic, and did not follow the usual relentless progress which occurs in untreated acute leukemia. Chronic myelogenous leukemia usually presents a variety of different immature myeloid cells in peripheral blood, and frequently a high basophil count, which was not present in this case. Also, while the leukocyte alkaline phosphatase is almost always depressed in chronic myelogenous leukemia, this patient did not exhibit such a condition. The serum muramidase reading was elevated, and this is most characteristic of monocytic leukemias.[6] The only other condition from which CMML is difficult to differentiate is the preleukemic condition, or smoldering leukemia.[4, 7, 8] This condition is seen most frequently in elderly patients. It does not include the characteristically large numbers of blasts in peripheral blood, as acute leukemia does. It also has a tendency to show atypical features over a long period of time with mild pancytopenia, and is usually not associated with some of the more serious complications of acute leukemia. However, a marked monocytosis is not generally a feature in smoldering leukemia, and it is not characteristic for the muramidase level in the urine or blood to reach such high levels as seen in this patient.

The position of CMML and preleukemia in leukemias is yet to be determined, while new discoveries are being made and knowledge is expanding, it is possible that CMML is another mode of presentation of the preleukemic state, or it may be a more benign variety of the generally aggressive acute monocytic leukemia. Some theories have been put forward to explain the nature of CMML,[5] and an understanding of its pathophysiology may help to understand leukemias in general. The important aspect of CMML is its recognition and avoidance of aggressive chemotherapy, which is used in patients with chronic myeloid leukemia or acute leukemia.[5, 9] The recommended treatment in case of anemia is transfusions, and antibiotics for the treatment of infection, which seems to occur more frequently in these patients than in the normal population. If the condition of the patient worsens and evidence is seen for conversion to frank acute leukemia, chemotherapy is then indicated, although the prognosis in the elderly patient is usually not as good as in the younger patient.

Summary

A case of chronic myelomonocytic leukemia (CMML) has been described. This condition is being recognized more often, but its cause and nature are still unexplained. It is possible that CMML is no more than a part of the spectrum of preleukemia, shading into acute myelogenous leukemia. The important aspect of this condition is its recognition and the exercise of care in the use of chemotherapy without which the patients seem to do better.

Acknowledgement

Miss Arlene LeBlanc and Mrs. Nadine Dollard assisted in the preparation of this paper.

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Hypertension Screening

An Analysis of Blood Pressure Recordings

SANDRA L. QAMAR, R.N., ***Newton***

BLOOD PRESSURE DAY was sponsored as a county-wide community service and educational project by the Harvey County Heart Division. The division had screening stations set up in four small communities, and three stations set up in the largest city. Blood pressure recordings were taken throughout the day by registered and student nurses. A community program for lay people, called, "Your Blood Pressure," was held in the evening, with three physicians explaining blood pressure and the consequences and treatment of hypertension.

The following study is the compiled result of the blood pressure screening program, which was coordinated and managed by a volunteer registered nurse. The main objectives of the screening program were to find unknown hypertensives and to provide education to create awareness about hypertension.

Participating at the blood pressure screening stations were 998 individuals, 335 males and 663 females. Sixty-five males and 92 females, a total of 157 people, had high blood pressure readings, according to the definition set for high blood pressure. A high blood pressure reading was defined as a systolic pressure of 180 and over, or a diastolic pressure of 94 and over. By percentages, 15.73 per cent of the total recordings were high. Of the total male group, 19.4 per cent had high recordings, and 13.88 per cent of the females had high recordings.

In addition, the participants were asked about their height and weight, any previous knowledge of high blood pressure, any medication for their blood pressure, and their smoking habits.

The total number of participants with a history of hypertension was 317. Of these the total number taking medication was 191. It is interesting to note that 138 participants with normal blood pressure readings were taking medication. From these figures, it appears 27.75 per cent of the participants on medication do not have adequate control of their hypertension, and probably need reevaluation and medication adjustments.

According to this study, 50.9 per cent (508) of the participants were obese. Obese was defined as 10 lbs or more over recommended weight. Of the total obese, 21.26 per cent had high blood pressure readings, while only 10 per cent of the non-obese had high readings.

The number of participants who smoke was 110. The incidence of high blood pressure in smokers was 15.45 per cent. The number of non-smokers with high blood pressure readings was 15.77 per cent.

It is estimated that over 21 million people suffer from hypertension in this country. It is also estimated that of these hypertensives, over 10 million are unaware of their condition. Finding these unknown hypertensives is one objective of the American Heart Association, its affiliates, and its volunteers.

Finding the number of unknown hypertensives was one of the main objectives of the screening program. These are the individuals the study wanted to identify and urge to seek medical evaluation. Of the 157 participants with elevated readings, 33.12 per cent (52) had no previous history of hypertension. Consequently, they were not diagnosed or told they had high blood pressure, because many factors influence blood pressure and one elevated reading is not conclusive proof of it. Such a reading, however, indicates further evaluation should be done by a physician.

The 52 participants with elevated readings and no history of hypertension were contacted three months after the "blood pressure day" to determine whether or not they had obtained medical evaluation. Of those contacted, 61.54 per cent (32) saw their physician. Of these 32, 56.25 per cent (18) were diagnosed for some degree of hypertension. A physician was not seen by 30.77 per cent (16) of those contacted, and it was impossible to contact 7.6 per cent (4) of the participants.

In addition to finding unknown hypertensives, the public education provided by such a screening program is invaluable for other reasons. Very few of the participants were without questions. Some had been experi-

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The Chaplain's Role

Support of the Coronary Patient

JEAN LOUISE WILLIS,* ***Marquette, Michigan***

SUBSTANTIAL DIFFICULTIES exist in knowing where to begin when writing of the chaplain's support of the coronary patient. One might write in a "this-is-the-way-we-do-it" fashion, recognizing that there are as many ways of supporting a patient as there are patients, and the way one supports a patient and that patient's family in his crisis is, to a substantial extent, dependent upon existing factors. Some of the factors which define the chaplain's relationship to the patient are: the personality of the patient and his proclivity to talk about what has happened to him, and his willingness to explore what it means now and what it might mean in the future; the chaplain's willingness to hear what a patient is really saying, and at times interpreting this to a patient; and finally, the setting within which the conversation takes place.

The writer remembers vividly her first contact with one patient who had just been admitted to the hospital with a diagnosis of myocardial infarction. He was a relatively young, promising scientist, when he landed in the cardiac care unit of the hospital. In the first routine visitation there was nothing significant in terms of the content of the conversation, but the patient asked if the chaplain would return the next day. This same style of relationship, of stopping by and engaging in a fairly superficial conversation, continued for about ten days. Then, one evening, as the chaplain was about to leave the room, the patient remarked, "You will be back tomorrow, won't you?" The chaplain nodded that she would, and he added: "There's something I would like to talk to you about."

The next day the chaplain returned and sat in the chair the patient offered (on previous visits she had stood). The patient said he had been doing a lot of thinking, and wanted to talk about it. When encouraged to proceed, tears began running down his face as he talked of his fear concerning what would happen to his wife and children if he died, and what would happen to the research project he was working on at the time. He spoke also of the fear of being incapacitated and not being, as he put it, "anything more than a vegetable." The opportunity for him to talk about what he felt seemed extremely significant.

The next day he apologized for letting all his feelings come out. He was assured this was all right, and that he was no less a man for having done so. In a visit several days later, he remarked, "I'm trying to put all these pieces together in terms of my life, and I'm not too sure about how to do it."

The chaplain's role in aiding the cardiac patient can be served by identifying a number of patient "distresses," including fear, anxiety and guilt, loneliness and rejection, and deal with these by offering a listening and attentive ear, reassurance, friendliness, and chaplain's poise.

With the physician's help, the patient and chaplain began talking about the meaning of what had happened as well as the meaning it would hold for him in the years ahead. In this particular instance something deeply significant for functioning as a chaplain was learned, namely the importance of waiting for the patient to say where he is, and not forcing an agenda upon him.

In the above case, support was many faceted. Support was offered in simply saying that the chaplain would see the patient the next day. This chaplain has made it a practice never to say "good-bye" to a cardiac patient. It seems to communicate far more than a simple "this-is-the-end-of-this-visit." At times, with patients who are really fearful, "good-bye" communicates that the chaplain knows something they do not know, and that what is known is the worst possible alternative for the patient: death before the next day. Support was also offered in listening to the patient's wife express her anger about him for working so hard and spending so little time with the family. Later, as she worked through her guilt which was triggered by her anger toward him, phrases such as, "I haven't tried to under-

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stand what his work means to him," or "I haven't been as kind to him as I ought to be," were frequent in her conversation. As the chaplain and the patient's wife worked together, an attempt was made to communicate to the wife that new beginnings are possible, perhaps more honest ones than had previously characterized their relationship. Part of her guilt was relieved through helping her look honestly at her feelings, and realizing that they were appropriate, but exacerbated by the crisis of her husband's heart attack.

An additional crisis set in for this particular patient when he was moved from the cardiac care unit to a regular room. While communicating that he was improving, this also meant that he was the recipient of far less intensive care than that to which he had become accustomed. During the initial phase of this part of his experience, there was a predominance of the phrase "what if" in his conversation. "What if I have another heart attack and no one is around to know it?" "What if I need something and can't get it?" His questions were almost endless. At this point the nursing staff was alerted to the situation, and some provisions were made to help the patient make the transition from sickness to health. His bedside table was placed closer to the bed so he would not have to stretch to get things on it, he was assured that the nurse would be within calling distance, the chaplain's pattern of visitation was changed to two brief visits a day instead of one, and the patient was encouraged to do those things which his physician had given him permission to do.

There are some general principles a chaplain may follow in dealing with the emotions most characteristically expressed by coronary patients.

The most prevalant distress among cardiac patients is that of fear. A patient may be afraid of such feelings as guilt, pain, and death itself. The difficulty in dealing with fear is that most people have been taught one way or another that fear is cowardly, and they are reticent to express it unless it is very intense. It seems appropriate to reassure a patient that fear is a normal reaction and nothing of which to be ashamed. Some symptoms of fear that can be easily seen in cardiac patients are: bold statements about not being afraid, restlessness, talkativeness, sometimes disturbing dreams, and tears. Sometimes a cardiac patient becomes all of a sudden very religious, wants religious literature to read, asks the chaplain for helpful scripture references, and seems preoccupied with having the chaplain do his peculiarly "religious" thing, such as praying or administering the sacraments. These seem to be signs that the patient is troubled, probably by fear, and needs support.

One of the most common ways fear is induced is through anxiety. It is one thing to admit that no one has lived a perfect life, but a cardiac patient, who usually feels he may have to face God suddenly, often will find some kind of transgression looming exceedingly large. At this point it is important to make a distinction which seems trivial: There is a difference between a feeling of guilt and the fact of a transgression. It is the feeling of guilt which contributes to illness, rather than the specific transgression. In other words, there may be, and often are, situations in which the guilt feeling is a substantial factor, but in which there is little or no guilt. A kind of morbid conscience causes the patient to suffer over transgressions which he is really innocent of committing.

Some guilt feelings originate in the unconscious, and may be little understood by the suffering person. On the other hand, they may be well understood. Often with cardiac patients, there is the recurring theme: "I feel I haven't worked or achieved according to my potential."

A third significant distress is that of loneliness. The lonely cardiac patient craves attention, and may go to any extreme to obtain it. Loneliness is even greater when the patient has to be taken into an unfamiliar environment, such as a hospital. One female patient, who lived alone, had recovered to the point of being allowed to return to her home without special nursing care. She seemed to be feeling fine whenever friends would call, but as visitors were about to leave she would begin to complain about pain. In this particular case, a wise relative related the woman's reactions to her physician. The physician reported no apparent physical reason for the pain. The relative, fearing that the patient might become seriously ill while alone, secured another woman to stay with the patient at night. Thereupon, her pains decreased in number, and finally disappeared.

Another distress with which the chaplain deals, particularly with the cardiac patient, is that of despair. There are seven symptoms of despair and depression:

A feeling that life is not worthwhile;

Tearfulness;

A heavy mood in which the sufferer is unable to laugh or respond to wit, in spite of the fact that he may usually be a responsive or witty person;

The rapid onset of the mood of despair, meaning it comes on within a few days or weeks in contrast to a lifelong pattern of worry;

Usually a loss of sexual interest;

A feeling and frequently expressed belief that the sufferer has committed "the unpardonable sin," although he can seldom describe what it is;

Slowness of speech and comprehension, and almost always the desire for death.

The fourth distress is the feeling of rejection. The cardiac patient, because of the typically long convalescence period, is easy prey for the feeling of rejection. The family is forced to adjust to not having the patient participate in many of its activities, because of the need for him to take it easy and not get too excited. As the patient's condition improves he is able to participate more, but is left out, not intentionally, but out of habit.

Having outlined some of the problems cardiac patients must face, the question arises: "How can the chaplain offer support to persons recovering from cardiac distress?" The following principles are not limited to the chaplain, but apply fairly well to all personnel dealing with cardiac and post-cardiac patients.

The basic tool is the art of listening. Listening is the ability of one person to encourage another person to talk. As one writer[1] has put it:

> The emotional and physical pain which makes up our illness also makes us conscious of ourselves. In illness we face many conditions about which we can do nothing but talk. Talking is a form of physical activity; to talk about a condition is to do something about it. To talk about an apprehension or worry or guilt feeling is to do something about it, perhaps not enough but it is a beginning and strangely enough if the listening is of sufficient quality and supported by intelligence, which includes judgment, the sufferer moves into something more than mere talk. Through listening to a person talk we can help him to realize that we are interested in him and care about what is happening to him, and in that realization, which makes up his affection for us, he shifts his stress to us.

The quality of listening is determined by the willingness on the part of the listener to trust himself, the ability of the listener to be non-judgmental in attitude, the ability to be friendly, and the ability to take time.

The second tool is the art of reassurance. This is distinguished from listening by the form of a positive statement, rather than the question which seems to characterize listening. This does not mean false reassurance, but refers to the reassurance which is grounded in facts as we have them at the time.

The third tool has to do with the chaplain's demeanor. This includes poise and friendliness. Poise refers to composure, steadiness, mental, emotional, and spiritual maturity. It is important to recognize that ministers, or other health care personnel, do not have ready answers to all the deep and troubling questions which arise in suffering and death. But chaplains and health care personnel can represent a God who is a fellow-sufferer, who hurts when we hurt. This means more than having answers to hurl back at a patient who is raising questions.

Such attitudes probably mean much more to the patient than standard, ready answers to their questions.

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Hypertension Screening

(Continued from page 61)

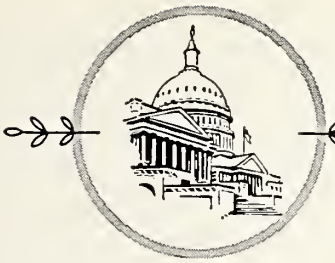
encing dizziness, headache, tiredness, and blackouts, and wanted to know whether these symptoms were related to hypertension. Some wanted to know what their blood pressure was, because they had never been told before, and many wanted to know what blood pressure means, and whether or not their's was within normal range. Also, some participants were taking antihypertensive medication and merely wanted to be "checked."

The rewards of such a screening program are realized when unknown hypertensives report they have been examined by a physician, were found to be hypertensive, and are striving to control their condition. Also rewarding is the fact that many individuals can be given answers to their personal questions concerning blood pressure, thereby contributing to the understanding of one of our nation's major health problems.

In summary, 998 participants were screened for hypertension. The number of participants with high blood pressure readings without a previous history of hypertension was 52. Thirty-two of the unknown hypertensives saw their physician, and 18 were diagnosed as having hypertension. Public education on blood pressure was also provided. In these two ways—screening and education—public awareness on the importance of detecting hypertension was increased.

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Socio-
ECONOMICS

Primary Health Care Manpower Problem in Kansas

ROBERT W. BROWN, M.D.,* *and*
JANET F. DONNOE, M.A.,** *Kansas City, Kansas*

NATIONAL CONCERN is currently focused upon deficits in and maldistribution of medical manpower. Although the issues involved are complex and controversial, most observers agree that there are unmet health care needs. They differ, however, on the severity and the nature of the problem. Some maintain there is a shortage of physician manpower; others believe there would be no shortage if the various physician specialties were redistributed on a more equitable geographic base. Still others argue that the problem is one of organization, which can be solved by reorganizing the health care delivery system to obtain increased physician efficiency. There are those who argue that a deficiency exists only in ambulant patient care, and since physicians generally give such services a lesser priority than acute care, physician assistants or nurses can and should be trained to provide these services.

The Regional Advisory Council of the Kansas Regional Medical Program, faced with requests for funds to alleviate primary care shortages with non-physician personnel, and aware of the controversies, requested a study to assess the physician resources in Kansas. Although this study contains all the weaknesses inherent in any ratio analysis, hopefully it will serve to describe the physician manpower situation more precisely than has been done in the past. Using the most recent data available, physician ratios are computed and a newly developed standard of comparison is used for the basis of the discussion on the relationship of shortages to training programs and to physician migration.[1]

Physician Supply

According to updated professional organization data, Kansas has a total of 3,016 active physicians, including 2,879 Doctors of Medicine and 137 Doctors of Osteopathy, or a ratio of 134 physicians for each 100,000 persons. This ratio is below the United States average of 159 physicians per 100,000 persons.[2] A computation, based on the 1970 Kansas population and the average physician ratio of the nation indicates that Kansas has a deficit of 25 physicians per 100,000 persons, or a total deficit of 562 physicians compared to the national average.

The study describes the physician manpower situation in Kansas.

In addition to this deficit, the geographic distribution of physicians is also a matter of concern. The distribution problem, which has become more acute during the past 20 years, is particularly evident in the rural areas of Kansas. In the state, 99 counties fall short of the national physician ratio, having less than one physician for 629 persons. Only six counties exceed this ratio: Cloud, Leavenworth, Pawnee, Sedgwick, Shawnee, and Wyandotte.

The data also show a proportionately large concentration of physicians in urban areas and an aging physician population in rural areas. Residing in four of Kansas's 105 counties is 41 per cent of the population, served by 63 per cent of the state's total supply of Doctors of Medicine.

Physicians practicing in urban areas are younger than those practicing in rural localities. Fourteen per cent of the active MD's in rural counties are age 65 or older, while only 6 per cent of the physicians in urban counties are in this age group. It is clear that geograph-

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ic and age distribution factors will become increasingly important for the rural areas of the state, since they can expect to lose through death or retirement 14 per cent of their physicians and have little chance of replacing them if the urban distribution pattern continues.

Physician Needs

A distinction is made in this study between primary care specialties and other specialties. Primary care physicians are Doctors of Medicine in general practice, family practice, pediatrics, and internal medicine (including geriatrics and general preventive medicine). For those counties with fewer than seven active physicians, regardless of specialty, general surgeons are also included in the primary care category. Specialists are all other physicians, including subspecialties in internal medicine and pediatrics *(Table I)*.

There are 2,879 active MDs in Kansas. Of these, 41 per cent are primary care physicians, or a ratio of 53 primary care physicians per 100,000 persons. This ratio is below the national average and also is below recommended primary care ratios, which range from 55.9 to 133.0. Of the ratios presented, the Florida Baseline Physician Ratios (FBPR) are potentially the most useful, since they are estimates designed for the average medical market place. The FBPR result from an amalgam of population characteristics, anticipated increases in the demand for services, seven-group health plan ratios, and other ratios are shown in *Table II*. Although these ratios are somewhat arbitrary, and perhaps not applicable for every area, they provide a baseline for drawing attention to physician service opportunities and problems in Kansas.

The FBPR recommends a total of 151 physicians per 100,000 persons, with 80 in primary care specialties. This is an increase of 21 primary care physicians over the average group health plan ratio of 59 per 100,000

TABLE I

RATIOS FOR PHYSICIAN MANPOWER

	Existing Ratios			*Recommended Ratios*			
Specialty	GROUP HEALTH PLAN AVERAGE[a]	UNITED STATES[b]	KANSAS	SCHONFELD[c]	MEDICAL ECONOMICS[d]	FBPR[a]	STEINLE[e]
General practice, Family practice	—	28.5	31	—	50.0	46	33.3
Internal medicine	—	20.6	16	96	25.0	24	14.3
Pediatrics	16.9	8.8	6	37	10.0	10	8.3
Total primary care	59.0	57.9	53	133	85.0	80	55.9
Dermatology	2.1	1.9	1	—	2.0	2	—
Neurology	.7	1.5	1	—	1.3	1	1.0
Obstetrics-gynecology	9.7	9.3	6	—	9.0	10	8.3
Ophthalmology	2.5	4.9	4	—	5.0	5	4.0
Orthopedics	3.3	4.7	4	—	3.3	5	4.6
Otolaryngology	2.4	2.7	2	—	4.0	3	2.0
Physical medicine	1.0	.7	.4	—	—	1	—
Psychiatry	2.1	10.4	14	—	10.0	10	7.3
Surgery	8.9	14.6	11	—	13.0	16	12.5
Urology	1.7	2.8	2	—	3.3	3	4.0
Radiology, pathology, anesthesiology	5.8	15.6	16	—	18.4	15	9.9
Total specialties	40.2	69.1	61.4	—	69.3	71	53.6
Grand total	99.2	127.0	114.4	—	154.3	151	109.5

Note: There are slight variations between the columns as to the subspecialties included under internal medicine and surgery.

[a] R. P. Lawton, *A Report on Physician Distribution in Florida,* Florida Regional Medical Program, June, 1973.

[b] "Federal and Non-Federal Physicians in the United States and Possessions by Specialty and Activity," *Distribution of Physicians in the United States,* 1970, Center for Health Services Research and Development, American Medical Association.

[c] Hyman Y. Schonfeld, Jean F. Hesston, and Isador F. Falk, "Numbers of Physicians Required for Primary Medical Care," *New England Journal of Medicine,* March 16, 1972, pp. 571-576.

[d] "How Many People to Support a Specialist?" *Medical Economics,* October 30, 1974, as reported by R. P. Lawton in *A Report on Physician Distribution in Florida.*

[e] John G. Steinle, "Suggested Ratios of Physicians to Population," *Hospital Topics,* Vol. 9, March, 1971.

and considerably below the Schonfeld ratio of 133 (primary care only), which clearly exceeds the physician production capabilities of the present health care system. The FBPR recommendation, then, is a mid-range ratio falling between the group health plans and the Schonfeld estimate. Using FBPR as the comparison standard, Kansas has a total deficit of 790 physicians, with a shortage of 613 in primary care specialties. The inclusion of the 137 DOs as primary care physicians reduces the deficit to 476. The most acute shortage is in primary care specialties, which require 78 per cent of the additional physicians (80 per cent if obstetrics and gynecology are included). The exclusion of MDs age 65 or older does not significantly alter the specialty supply pattern, but it does increase the total physician shortage to 999.

Stated in ratios, Kansas currently has a deficit of 27 primary care MDs per 100,000 persons, and a total deficit of 36 physicians per 100,000 persons when all specialties are considered. If the standard of 80 primary care physicians per 100,000 persons is applied to Kansas counties, it reveals that almost all are underserved. Only four counties have the requisite number of doctors of medicine to meet this standard: Morton, Norton, Pawnee, and Wyandotte. If all active DOs are included as primary care physicians, the number of counties meeting the standard increases to eight, by addition of Graham, Haskell, Ness, and Ottawa.

Even though the magnitude of the problem varies with the comparison ratio and the geographic area selected, using the FBPR standard, Kansas does have a physician shortage or, more precisely, a primary care

TABLE II

COMPARISON OF ACTIVE PHYSICIANS WITH PHYSICIANS IN TRAINING
DOCTORS OF MEDICINE
JANUARY 1974

Specialty	*Active Non-House Staff Physicians*		*House Staff*	
	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE
General practice	603	25	—	—
Family practice	48	2	36	8
Internal medicine	296	12	72	16
Pediatrics	114	5	18	4
Total primary care	1,061	44	126	28
Internal medicine specialties	65	2	27	6
Neurology	23	1	6	1
Dermatology	24	1	—	—
Allergy	13	.5	—	—
Pediatric specialties	9	.3	4	1
Psychiatry	241	10	82[a]	18
General surgery	200	8	40	9
Surgical specialties	45	2	10	2
Obstetrics-gynecology	116	5	17	4
Orthopedic surgery	77	3	19	4
Urology	44	2	8	2
Otology	42	2	6	1
Ophthalmology	80	3	8	2
Pathology	88	4	26	6
Radiology	108	4	26	6
Anesthesiology	88	4	16	3
Total P-R-A	284	12	68	15
Physical medicine	5	.2	4	1
Other specialties and classifications	97	4	28[b]	6
Grand total	2,426	100	453	100

Note: Unless otherwise specified, figures include house staff located at the University of Kansas School of Medicine and at hospitals in Wichita.

[a] Includes residents at Menninger School of Psychiatry.

[b] Number of rotating interns.

physician shortage. What can be done to eliminate this shortage? One frequently discussed solution to the problem is the training of more physicians. There were 616 internship and residency positions available in Kansas in 1972-73. Of these, 178 (28%) of the positions offered were in primary care. This is comparable to the percentage of house staff members currently in primary care training. However, the percentage of primary care physicians in training is less than the percentage currently in practice. Twenty-eight per cent of the 453 house staff physicians are in primary care specialties. This is in sharp contrast to the 44 per cent of active physicians who are in primary care *(Table II)*.

With an exception in primary care specialties, the number of postgraduate training positions available in Kansas generally reflects the existing distribution of specialists among active physicians. On the topic of physician training for replacement, Weber[3] reports that:

"If physicians in each specialty were equally distributed in each age bracket and we assume a 30-year practice life on the average, a ratio of 3.5 new trainees in the field for each 100 physicians (excluding interns and residents) would provide a static number in that specialty."

Kansas, however, does not have the 1,800 physicians necessary to meet the FBPR primary care physician standard. Nor is its physician supply equally distributed by age to permit a constant loss rate of 3.5 per cent. To replace the existing supply of 1,061 active primary care physicians (excluding house staff), using Weber's criteria, Kansas needs to produce 37 primary care physicians every year. To replace the recommended FBPR standard of 1,800, Kansas would need an additional 63 primary care physicians each year. Kansas training programs are not producing at a rate equivalent to Weber's replacement ratio for the FBPR standard, and, as might be expected, the most notable discrepancy is found for general practice and family practice *(Table III)*.

These computations do not consider the large number of active physicians who are currently age 65 or older. Of the 1,061 primary care physicians in Kansas, 139 (13%) are in this age category. Should all the physicians currently at retirement age become inactive this year, the annual loss rate would be 13 per cent, not 3.5 per cent. If this occurs, Kansas will have a deficit of 878 primary care physicians.

Placed in this context, current training programs in Kansas and elsewhere are not functioning at an adequate level to replace physician losses and significantly affect the existing deficit. Another factor yet to be considered is the retention rate of physicians trained in Kansas. An assumption of 100 per cent retention was made in the previous discussion, but data indicate that in the past, only 40 per cent of the house staff members have been retained.

Migration is an important factor, since physicians do not necessarily practice in the state in which they were trained. Over the years, Kansas has provided some phase of training for 5,417 active physicians, of whom 3,647 (67%) are currently practicing outside the state. On the basis of average migration figures for previous Kansas postgraduates, one could expect that only 181 (40%) of the 453 physicians currently listed as house staff members will actually practice in Kansas at any one time. This figure must be carefully reassessed; however, it does illustrate that increasing the number of medical graduates may be less efficient than the previous discussion indicated, in meeting the current FBPR defined need for 790 physicians in Kansas.

A preliminary analysis of physician migration data for Kansas also indicates that there is a 58 per cent probability of retaining physicians trained in the state if they can receive both medical school education and advanced training within the state. Fifty-eight per cent of the graduates of the University of Kansas School of Medicine (KMGs) who also took their advanced training in Kansas are currently practicing in this state. This contrasts sharply with the KMGs who took advanced training outside Kansas; of that group, only 25 per cent returned and are practicing in Kansas. This corroborates the findings of a previous study of Kansas medical school graduates,[4] and is further supported by Yett and Sloan,[5] who report that:

TABLE III

FBPR REPLACEMENT TRAINING RATES

Specialty	*Number Required by FBPR*	*Current Annual Production*	*Required Annual Production for Replacement*[a]
General practice/Family practice	1,035	17[b]	36
Internal medicine	540	24[c]	19
Pediatrics	225	6[c]	8
Total primary care	1,800	47	63

[a] Replacement ratio of 3.5 new trainees for each 100 practicing physicians is used to determine the required annual production figures.

[b] First-year residents.

[c] The average annual production is computed by dividing the total house staff by the length of the training program (years).

"Policies designed to encourage resident training have a higher payoff in terms of physician retention than any other single medical 'event' (*i.e.*, medical school or internship). Moreover, if residency is reinforced by any other attachment 'event,' there is an even better chance of retaining the physician involved."

These findings indicate that there is a great need to improve the circumstances, whereby KMGs have the opportunity to take their advanced training in Kansas.

Physician-training programs in other states are another source of manpower. Thirty-nine per cent of the active physicians in Kansas are training immigrants, meaning they did not graduate from a Kansas medical school, nor did they take their most recent advanced training in Kansas. A total of 1,128 (39%) of this state's 2,898 MDs received all of their medical training outside Kansas. All of the state's 137 DOs were trained outside Kansas. The effect of migration patterns upon the current physician shortage in Kansas is less than encouraging. There simply are not enough trained physicians willing to practice in Kansas, and it appears unlikely the Kansas physician deficit will be significantly reduced by physicians trained in other states or countries.

The focus thus far has been upon current physician manpower needs in Kansas, however, projections for the future must also be considered. If the population of the state increases, as predicted, from 2,249,071 to 2,391,000 in 1980, Kansas will require 3,541 physicians in 1980. This would be an increase of 438 physicians over the current need, for a total of 1,228 additional physicians.

Kansas is currently producing 157 physicians each year, but to meet FBPR standards in 1980, 261 physicians are needed annually for the next five years. As expected, the greatest need for increased training capacity is in primary care specialties. Assuming 100 per cent retention, Kansas would need to increase the annual production rate by 128 primary care physicians to meet the estimated needs of 1980. Smaller increases will be required in most of the other categories, and a reduction may be appropriate for a few specialties. Primary care shortages, then, will become increasingly apparent during the next six years, unless there are radical changes in medical training programs, health service delivery, or health care needs.

Discussion

This study has called attention to the maldistribution of physicians, as well as to statewide physician shortages. These shortages are already very real in some areas of Kansas. Emergency room waiting lines are growing, physicians are closing their practices to new patients, and house calls are quickly disappearing. Two rural counties have at present neither a Doctor of Osteopathy nor a Doctor of Medicine. A recent survey of perceived physician needs in Kansas communities with population under 50,000 revealed that 85 per cent (132) of the responding communities desired additional health manpower.[6] Of the physicians needed, 65 per cent were in primary care specialties (includes 242 MDs and 20 DOs).

The solutions of physician manpower problems at the state and local level will be difficult, for there are simply too few recruitable physicians with the necessary skills. Until the production of primary care physicians is drastically increased nationwide, the odds against Kansas successfully recruiting additional primary care physicians are great. This is particularly true for the sparsely populated rural counties, for the trend of the past two decades has been that the larger cities, the densely populated counties, and the multi-county medical market areas containing a centralized grouping of specialists are most successful in recruitment.

Some question the limited strategy of training more physicians. In a recent analysis of the Family Practice Act (S.3418), Wright[7] states, "The real shortage in the medical system is not in a new specialty to replace the vanishing and ill-trained general practitioner, it is in primary care." While not opposed to training more family practitioners, Wright argues that alternative strategies must also be considered if the desired result is to be obtained. He advocates giving consideration to creating a Bachelor of Medicine—a Doctor of Medicine with a limited license—and to developing middle-level professionals, such as the nurse clinician and the physician assistant, as potentials to increase physician productivity.

Although proposals of this type raise complex issues beyond the scope of this study, they are pertinent to the challenge of providing adequate primary care services to the citizens of Kansas. The physician recruitment problems of rural Kansas communities can be expected to continue, yet the immediate health care needs of rural residents cannot be ignored. It is important, therefore, that attention be given to developing and assessing all alternative long and short term strategies to meet these needs.

Summary

The data presented in this study on the number of physicians in Kansas and on physician-population ratios have permitted an estimate of physician needs in 1974 and 1980, and a general evaluation of physician pro-

duction and recruitment programs. It was found that:

1. Kansas has a physician shortage by national and FBPR standards. With 78 per cent of this deficit occurring in the primary care specialties, the greatest need is for primary care physicians. Kansas must plan to train or recruit an additional 1,228 physicians, including 865 primary care specialists, to meet the FBPR standard in 1980.

2. The geographic distribution of physicians in Kansas is uneven. The four largest counties have 61 per cent of the state's physician manpower, yet contain 41 per cent of its population. Both primary care physicians and specialists display a preference for the more densely populated counties. Fifty per cent of the primary care Doctors of Medicine, and 73 per cent of the specialists practice in the four urban counties.

3. Rural Kansans obtain their medical care from an older physician population than do persons living in the four more densely populated counties. Fourteen per cent of the physicians in the rural counties are age 65 or older; 6 per cent of the physicians in the urban counties fall into this age category. Of the primary care MDs practicing in rural counties, 16 per cent are age 65 or older. This contrasts with 7 per cent in the urban counties. Specialists are similarly distributed geographically by age.

4. Of the practicing MDs, 41 per cent are primary care physicians, yet 28 per cent of the physicians in training are in primary care specialties. The percentage of physicians in training for most of the other specialties reflects the percentage in practice. A major change in the orientation of training programs is required if sufficient primary care physicians are to be produced.

5. Kansas training programs have provided some phase of training for 5,417 practicing MDs, yet 67 per cent of these physicians are now practicing outside Kansas. Migration data indicate that the physicians who receive both medical school and advanced training in Kansas are more likely to establish their practices in Kansas than are other physicians.

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3RD BIENNIAL HEALTH CARE CONFERENCE

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The third biennial health care conference, sponsored jointly by Fort Hays State College, the Ellis County Medical-Dental Association and the Northwest Kansas HS/EA, will be held April 10, 1976. Unlike the past two conferences which dealt largely with national issues, such as federal plans for reorganizing medicine, health financing proposals and external quality control measures, the current conference will be introspective. As indicated in the theme, the purpose of this conference will be to assist the busy practitioner in managing his professional and private life.

Sessions will be conducted by Rick Pierera, of the nationally recognized practice management firm of Madison, Wisconsin, PBP; J. K. Logan, who will cover the subject of practice organization; Lee Dunn, on malpractice protection; and Bernard Hazuka, who brings that perspective to the busy practitioner which allows him to cope with ever-present threats and restore equanimity to his professional life.

Announcements and registration forms will be mailed in March.

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The President's Message

Rights, Privileges, and Related Matters



Our recent mail has contained a number of letters from respected friends and colleagues which reflects some understandable confusion between the concepts of "right" and "privilege." I perceive a puzzled, frustrated, and increasingly angry physician who views the assault by patients and attorneys on his professional judgment and performance as an incursion on his rights as a medical professional. He lays no claim to perfection, but he believes that the completion of his medical education, passing of a licensing examination, payment of all proper fees, and self-motivated and self-determined continuing educational experience establish his right to practice his profession, guided solely by his own good conscience and his natural tendency to adhere to the ethical principles of his profession. The idea of having to carry liability insurance to protect his own assets and provide a source for compensation of his patients in instances of true medical injury—whether negligence is a factor or not—is anathema. He hints at a withholding of services as his only remaining weapon.

Let's take another physician whose view of himself includes the understanding that his education, proficiency in an initial licensing examination, and payment of fees has earned for him the privilege of professional practice in medicine, granted by the public through their organized self-government. The standards for continuing that privilege are those set by the physician's own profession. They include a demonstration of bona fide continuing education to keep abreast of rapid advances in clinical medicine, and financial responsibility through authenticated participation in a program of professional liability insurance which takes honest account of the fact that the practice of medicine is a state-of-the-art undertaking which cannot assure perfect results in every instance. This physician recognizes that injury resulting from medical acts—no matter if they are inadvertent—can justifiably and properly lead to reasonable compensation—but not exploitation! He puts his faith in the power of persuasion and not in the persuasion of power.

It is the second characterization that has to this point marked the representations of your Kansas Medical Society before the citizens of our great state and their legislature. For the sake of us all, I hope those representations have been accurate.

Fraternally,

John W. Travis M.D.

President



Editorial COMMENT

What's in a Name?

At this writing the jury is still out, the jury in this case being the National Labor Relations Board. The question it is pondering: are interns and residents students or employees? Whatever the Board decides, the notable feature is that is should be confronted with the question at all, and particularly that the interns and residents should be seeking to achieve rather than avoid the designation of "employee," smacking as it does of a non-professional condition.

Their intent is to secure unto themselves and their posterity the blessings of recognition by the NLRB for purposes of negotiating contracts with hospital administrations. And in keeping with the "appeal ad infinitum" spirit of the times, a negative reaction by the Board will simply call for repetition of the effort until the inevitable success is achieved. These observations are not critical since we agree with the necessity to use the methods of the day to accommodate to the conditions of the day—and our agreement with the use (but not necessarily the methods) is enough to categorize us as being philosophically as well as chronologically out of touch with such realities. But we have always had the feeling that age is at least as apt to bring the dangers of senility as the wisdom of experience, and we try to remember that learning from the past does not mean that one must live in the past. Such intramural conflict as exists in the matter seems, then, to be a conflict between the elders, who see such activities as debasement of the professional coinage with the dross of the marketplace, and the youngsters, who express their conviction that their professional ideals and economic actions are totally separate from each other and, furthermore, they are tired of hearing about how it used to be.

Now the condition of being an employee is a perfectly honorable one encompassing many forms, and physicians are no strangers to it. The traditional independence of the physician denoted a conviction that freedom to conduct practice would be jeopardized by subordination to the dictates of the employer. And certainly the conduct of the practice of medicine under such circumstances requires some compromises and accommodations. Along the way, many physicians have noted enough benefits, professional or economic or both, to accept the condition or even, increasingly, prefer it. "Student" is a transient term, implying anticipated completion of a course which will lead to an elevation of function, presumably carrying more responsibility and consequently more effective accomplishment, while "employee" is a static term, implying a fixed and subordinate position, Horatio Alger notwithstanding. Perhaps it is this relationship which distresses some of the critics of the house-staff action—the fear that acknowledgement of the subservient concept necessary to effective negotiation will somehow have a degrading effect on the student capability and professional function.

Of course, while the opponents of change are viewing with alarm to an unwarranted degree, the house staff are pointing with pride and defining their efforts in terms of procurement of improved patient care in equally unwonted fashion. They report, for example, that in the wake of their signal victory in the Cook County strike, a percentage of their anticipated gains was earmarked for equipment and services to benefit the patients. This altruism, however, suffers from some degree of dilution. First, in the process of benefiting the patients, these improvements are also going to improve the working conditions for the house staff. Second, it would be surprising, since they seem to have had pretty good legal advice, if the donations were not accomplished in the noblest traditions of tax deductibility. But third, the practice of physicians contributing out of pocket for equipment and services to help their patients is as old as the profession, and whether we call them students or employees, this is one experience they'll be able to put to use later for sure. So the gesture deserves approbation but let's keep it in perspective.

The willingness to accept the term "employee" derives to some extent from the fact that "student" is not too

appealing. It, like "employee," indicates a subordinate status and in this instance is applied to individuals who have expended considerable time and effort to reach their level of function, are consistently impatient to achieve the next level (since they are really the ones who are doing the work for which the ones on the next level get credit), and inevitably feel that their responsibilities transcend the modest level implied in the word.

The objections of the elders to such activities are misdirected since they fear that these actions will be the cause of undesirable change in the fundamental medical concept. As a matter of fact, these actions are not cause but effect. We are informed that they are the current expression, within our professional framework, of the feelings and attitudes of those who are seeking to adjust the structure of an ancient but constantly changing service to an ancient but constantly changing world.

The fundamental objective in gaining this recognition is, then, the procurement of that essential element of the negotiating scene, clout. This term has progressed from signifying the everyday apparel of the well-dressed aborigine to meaning the capability of the subject to put pressure on the sensitive areas (maybe the meaning hasn't changed so much after all). Without this bureaucratic designation of "employees," the interns and residents are exposed to the interpretation that their participation in the negotiating hurly-burly is a violation of their professional ethics. Call them employees, however, and they become equipped with the bureaucratic Ex Calibur, which permits them to contend with the Black Knights of Administration without such moralistic inhibitions.

The effort then—and whether or not it is successful—comes down to another indication that medical service is moving into an adversary relationship with the society it serves. Physicians in the past have been ill-equipped to contend with the socio-economic maneuvers required by the shifting social patterns. They have generally favored the benign chaos of the *laissez-faire* philosophy, but this is giving way to the organized formulary which prescribes for each of us what to do as well as when, where, how—and for how much. The "employees" should emerge better prepared for their duties.

To achieve this end, of course, each agency must promote its own interests, establish territorial imperatives, and dictate its terms. This will be done by confrontation with other agencies who will, by definition, become adversaries.

Ultimately, we are assured, all will benefit and if, in order to achieve these benefits, we must give one or another title to a particular group, it really doesn't matter, does it? Or does it?—*D.E.G.*

UNIVERSITY OF KANSAS MEDICAL CENTER

DIVISION OF CONTINUING EDUCATION—DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION

Symposia:

March 10, 11 and 12, 1976

PEDIATRICS

Subjects to be discussed will include: WHY WELL CHILD CARE?; NURSE PRACTITIONERS—BUT WHO CAN AFFORD THEM?; UPPER RESPIRATORY INFECTION AND STREPTOCOCCUS THROAT; OTITIS MEDIA; ALIGNMENT PROBLEMS OF THE LOWER EXTREMITIES; ALLERGY: WHAT THE PRIMARY PROVIDER SHOULD AND SHOULD NOT REFER; ASTHMA AND BRONCHIOLITIS; PEDIATRIC DENTISTRY; EYE PROBLEMS; SCHOOL PHOBIA; OUR GROWING TEENAGERS AND SEXUALITY; TREATMENT OF CHILD ABUSE; TOILET TRAINING; HYPERACTIVITY; HEADACHE: HOW TO RULE OUT TUMOR WITHOUT BANKRUPTING THE FAMILY; VOMITING AND DIARRHEA.

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JOHN L. SAWYERS, M.D., Vanderbilt University, Nashville, Tennessee.

Subjects to be discussed will include: GASTROINTESTINAL SURGERY; SELECTED TOPICS IN CANCER; SURGICAL COMPLICATIONS; SURGICAL ABDOMINAL EMERGENCIES.

Registration Fee: $110.00 plus $25.00 for course materials

For program announcement and information, write: DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION, University of Kansas Medical Center, Kansas City, Kansas 66103.

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Announcements

(Continued from page 44)

Apr. 5-8 American College of Physicians, Civic Center, Philadelphia. INFO: Convention Dept., American College of Physicians, 4200 Pine, Philadelphia 19104.

Apr. 8-9 AMA National Conference on Rural Health, Hyatt Regency, Phoenix. INFO: AMA Dept. of Rural and Community Health, 535 N. Dearborn, Chicago 60610.

Apr. 10 Anesthesia Seminar, Illinois Society of Anesthesiologists, University of Illinois at the Medical Center, Peoria, IL. INFO: B. V. Wetchler, M.D., Division of Anesthesia, Peoria School of Medicine, 1400 W. Main Street, Peoria, IL 61606.

Apr. 26-29 American College of Surgeons, Boston. INFO: C. R. Hanlon, M.D., 55 E. Erie, Chicago 60611.

MAY

May 2-5 Kansas Medical Society 117th Annual Session, Hilton Inn, Salina.

May 16-20 American Urological Association, Las Vegas Hilton, Las Vegas. INFO: H. B. Jennings, Jr., M.D., 1120 N. Charles St., Baltimore 21201.

May 17-18 Health Problems of Skin, Washington, D.C. INFO: Frank Chappell, AMA, 535 N. Dearborn, Chicago 60610.

May 22-23 Selected Topics in Gastroenterology, American Gastroenterological Association, Fontainbleau Hotel, Miami Beach. INFO: AGA, 6900 Grove Road, Thorofare, NJ 08086.

May 22-25 Southwest Allergy Forum, Hilton Palacio del Rio Hotel, San Antonio, TX. INFO: P. B. Kamin, 601 Oak Hills Medical Building, San Antonio, TX 78229.

May 27-29 American Cancer Society, National Conference on Radiation Oncology: *Present Status and Future Potential,* San Francisco Hilton and Tower, San Francisco. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Ave., New York 10017.

University of Miami School of Medicine

Feb. 23-27 *Basic Neurology,* Miami Beach

Mar. 31-Apr. 3 *Renal Disease and Hypertension,* Bal Harbour

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May 9	Dallas, Tex.
Sept. 4, 5	Jackson Hole, Wyo.
Sept. 11, 12	Milwaukee, Wis.
Sept. 10-12	Portsmouth, N.H.

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(Sodium Dextrothyroxine)

AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

A Proven Cholesterol-Lowering Adjunct to Diet.

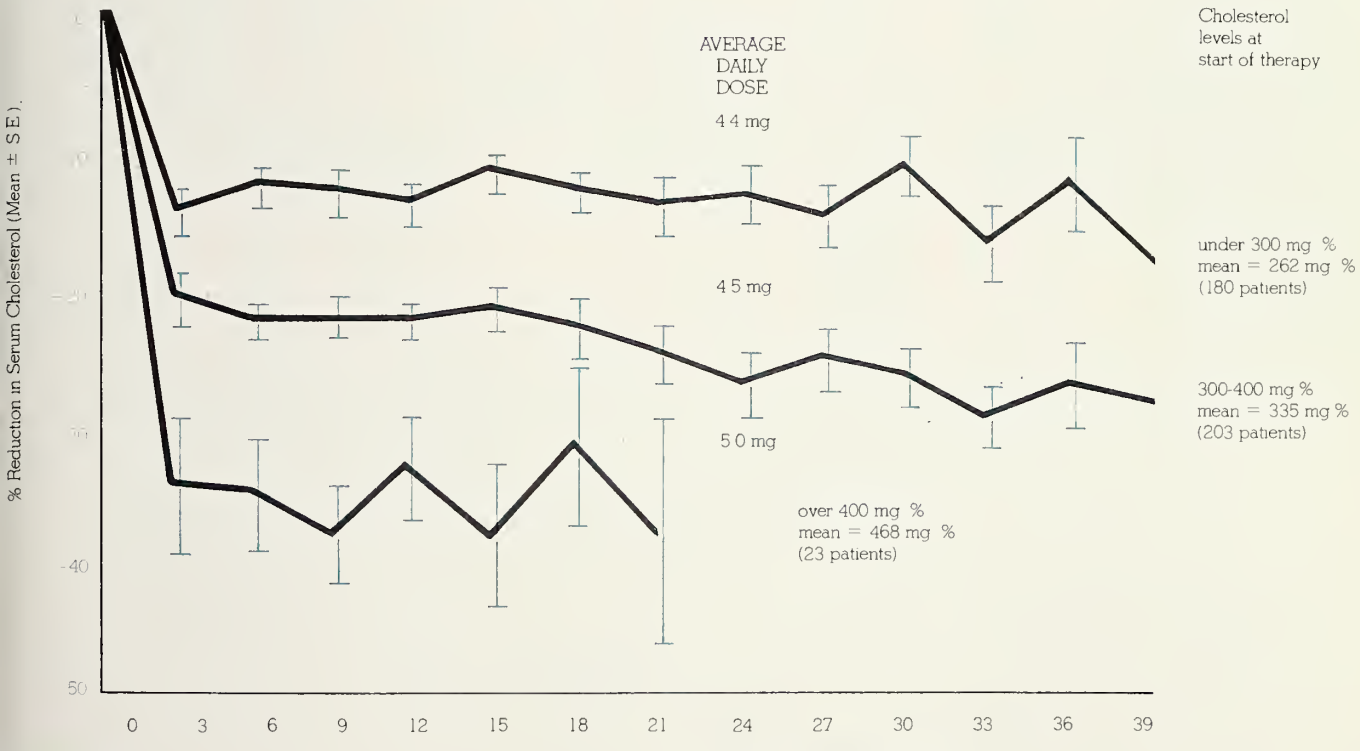
An effective agent for low density lipoproteins in Euthyroid, Non-Cardiac Patients.

CHOLOXIN® (Sodium Dextrothyroxine) is the convenient and practical way to manage the hard-to-manage patient who doesn't always follow the diet regimen that you've outlined.

Convenient once-a-day dosage encourages patient cooperation, and it's economical for long-term therapy.

CHOLOXIN (Sodium Dextrothyroxine) is a thyroid analogue which effectively lowers elevated serum cholesterol 15 to 35% (see chart below) in low density lipoproteins.

CHOLOXIN (Sodium Dextrothyroxine) has undergone ten years of clinical trials and seven years of practice. The clinical trials consisted of 337 clinical studies involving over 3,000 hypercholesterolemic non-cardiac patients. It is among the most thoroughly evaluated drugs ever presented to physicians.



NOT ALL PATIENTS ARE REPRESENTED AT EACH TIME INTERVAL.

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NOTE:
See following page for full prescribing information.

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(Sodium Dextrothyroxine)

Effectively Lowers Elevated Cholesterol With Convenient Once-A-Day Dosage

Four strengths.. 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage.

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommended
Adult Hypercholesterolemic	1 0-2 0 mg	1 0-2 0 mg	4 0-8 0 mg	4 0-8 0 mg
Pediatric Hypercholesterolemic	0 05 mg /kg body weight	0 05 mg /kg	0 1 mg /kg body weight	4 0 mg
Hypothyroid Cardiac	0 5-1 0 mg	1 0 mg	4 0 mg	4 0 mg

Description
CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3 5 3' 5'-tetraiodothyronine sodium salt

Actions
The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels

Most of the available evidence indicates that CHOLOXIN stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end products do not accumulate in the blood

Indications
This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication. **Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.**

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications
The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris, history of myocardial infarction, cardiac arrhythmia or tachycardia, either active or in patients with demonstrated propensity for arrhythmias, rheumatic heart disease, history of congestive heart failure, and decompensated or borderline compensated cardiac status
2. Hypertensive states (other than mild labile systolic hypertension)
3. Advanced liver or kidney disease
4. Pregnancy
5. Nursing mothers
6. History of iodism

Warnings
CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN (sodium dextrothyroxine) therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN (sodium dextrothyroxine) therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results

Usage in Women of Childbearing Age
Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring

Precautions
It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued

A few children with familial hypercholesterolemia have been treated with CHOLOXIN (sodium dextrothyroxine) for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol lowering effect is observed

Adverse Reactions
The side effects attributed to dextrothyroxine therapy are for the most part due to increased metabolism, and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient although its relationship to CHOLOXIN (sodium dextrothyroxine) therapy was not established

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine), a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section)

Dosage and Administration
For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0 1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0 05 mg (50 mcg) per kilogram to be increased in up to 0 05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn

How Supplied
CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4 and 6 mg tablets

March 1975

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Novafed® A Capsules

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For years, patients have heard of drugs providing long-lasting relief. But after six or eight hours, they often run out of relief. And it's too soon to take the next dose.

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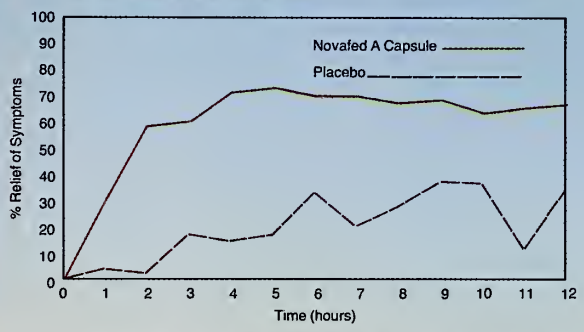
Prompt onset of effect is followed by full 12-hour relief.

(Please refer to the following page for bioavailability studies and prescribing information.)



Patients with severe pollen allergies were tested during hay fever season in a countryside environment and asked to rate severity of five different symptoms on a scale of 1 to 4.

Clinical Study: Degree of Relief from Itchy Eyes and Nose and Throat, Watery Eyes, Runny Nose*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

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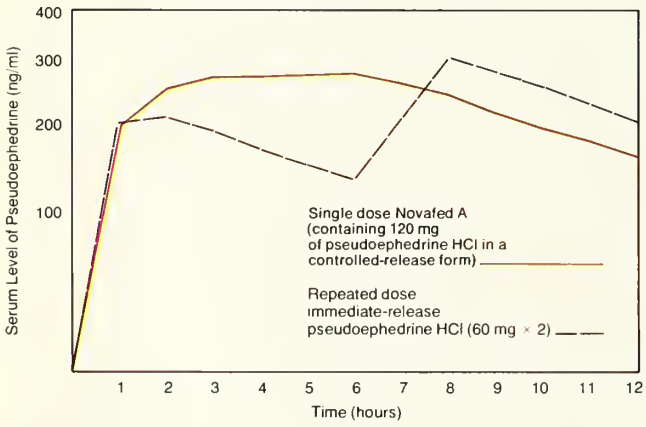
Prompt onset and sustained serum levels over 12 hours.

A bioavailability study confirmed that the sustained 12-hour action of Novafed A was comparable to that of immediate-release medication taken at 6-hour intervals.

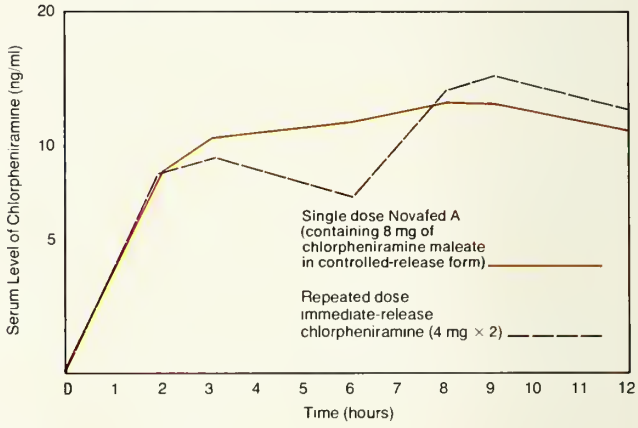
The chart at the left shows the serum levels of pseudoephedrine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 60 mg. pseudoephedrine hydrochloride in an immediate-release form. Serum levels of pseudoephedrine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

The chart at the right shows the serum levels of chlorpheniramine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 4 mg. chlorpheniramine maleate in an immediate-release form. Serum levels of chlorpheniramine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

Comparison of Mean Serum Levels of Pseudoephedrine Following Novafed A and an Immediate-Release Reference Formulation*



Comparison of Mean Serum Levels of Chlorpheniramine Following Novafed A and an Immediate-Release Reference Formulation*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

DESCRIPTION: Each NDVAFED A capsule contains 12D mg. of pseudoephedrine hydrochloride and 8 mg. of chlorpheniramine maleate. The specially formulated pellets in each capsule are designed to provide continuous therapeutic effect for about 12 hours. Nearly one-half of the active ingredients is released soon after administration and the remainder is released slowly over the remaining time period.

ACTIONS: NDVAFED A combines the action of a nasal decongestant, pseudoephedrine hydrochloride, and an antihistamine, chlorpheniramine maleate. These ingredients are combined to provide prompt and sustained nasal and upper respiratory decongestant and antihistaminic action.

INDICATIONS: NOVAFED A is indicated for the relief of nasal congestion and eustachian tube congestion associated with the common cold, sinusitis and acute upper respiratory infections. It is also indicated for perennial and seasonal allergic rhinitis, vasomotor rhinitis, allergic conjunctivitis due to inhalant allergens and foods and for mild, uncomplicated allergic skin manifestations of urticaria and angioedema. Decongestants in combination with antihistamines have been used for many years to relieve eustachian tube congestion associated with acute eustachian salpingitis, aerotitis media, acute otitis media and serous otitis media. NOVAFED A may be given concurrently, when indicated, with analgesics and antibiotics.

CONTRAINDICATIONS: Symphathomimetic amines are contraindicated in patients with severe hypertension, severe coronary artery disease, and in patients on MAO inhibitor therapy. Antihistamines are contraindicated in patients with narrow-angle glaucoma, urinary retention, peptic ulcer, during an asthmatic attack, and in patients receiving MAO inhibitors.

Children under 12: NOVAFED A controlled-release capsules should not be used in children less than 12 years of age.

Nursing Mothers: Pseudoephedrine is contraindicated in nursing mothers because of the higher than usual risk for infants from sympathomimetic amines.

Hypersensitivity: This drug is contraindicated in patients with hypersensitivity or idiosyncrasy to sympathomimetic amines or antihistamines. Patient idiosyncrasy to adrenergic agents may be manifested by insomnia, dizziness, weakness, tremor or arrhythmias.

WARNINGS: Sympathomimetic amines should be used judiciously and sparingly in patients with hypertension, diabetes mellitus, ischemic heart disease, increased intraocular pressure, hyperthyroidism, or prostatic hypertrophy. Sympathomimetics may produce central nervous system stimulation and convulsions or cardiovascular collapse with accompanying hypotension.

Antihistamines may impair mental and physical abilities required for the performance of potentially hazardous tasks, such as driving a vehicle or operating machinery, and mental alertness in children. Chlorpheniramine maleate has an atropine-like action and should be used with caution in patients with increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension or in patients with a history of bronchial asthma.

Do not exceed recommended dosage.

Use in Pregnancy: The safety of pseudoephedrine for use during pregnancy has not been established.

Use in Elderly: The elderly (6D years and older) are more likely to have adverse reaction to sympathomimetics. Overdosage of sympathomimetics in this age group may cause hallucinations, convulsions, CNS depression, and death. Therefore, safe use of a short-acting sympathomimetic should be demonstrated in the individual elderly patient before considering the use of a sustained-action formulation.

PRECAUTIONS: This drug should be used with caution in patients with diabetes, hypertension, cardiovascular disease and hyperreactivity to ephedrine. The antihistaminic may cause drowsiness and ambulatory patients who operate machinery or motor vehicles should be cautioned accordingly.

ADVERSE REACTIONS: Hyperreactive individuals may display ephedrine-like reactions such as tachycardia, palpitations, headache, dizziness, or nausea. Patients sensitive to antihistamines may experience mild sedation.

Sympathomimetic drugs have been associated with certain untoward reactions including fear, anxiety, tenseness, restlessness, tremor, weakness, pallor, respiratory difficulty, dysuria, insomnia, hallucinations, convulsions, CNS depression, arrhythmias, and cardiovascular collapse with hypotension.

Possible side effects of antihistamines are drowsiness, restlessness, dizziness, weakness, dry mouth, anorexia, nausea, headache and nervousness, blurring of vision, heartburn, dysuria and very rarely, dermatitis.

DRUG INTERACTIONS: MAO inhibitors and beta adrenergic blockers increase the effect of sympathomimetics. Sympathomimetics may reduce the antihypertensive effects of methyldopa, mecamylamine, reserpine and veratrum alkaloids. Concomitant use of antihistamines with alcohol, tricyclic antidepressants, barbiturates and other central nervous system depressants may have an additive effect.

DOSAGE AND ADMINISTRATION: One capsule every 12 hours. Do not give to children under 12 years of age.

CAUTION: Federal law prohibits dispensing without prescription.

HOW SUPPLIED: NOVAFED A is supplied in red and orange colored hard gelatin capsules, monogrammed with the Dow diamond followed by the number 1D9, in bottles of 100.

DOW

DOW PHARMACEUTICALS
The Dow Chemical Company
Indianapolis, IN 46268

Specialists in cough and cold care



Open Letter to the Doctors of Kansas

Dear Doctor,

According to a recent report on health education, most major causes of death in this country could be prevented if the American public would change its smoking, drinking, eating, and exercising habits. But, says the report, little is being done in schools about teaching children how to care for their bodies in order to prevent disease.

This health education problem was brought to my attention because the AMA, in conjunction with many other associations, is preparing a special packet for Rural Health Week, which is slated for April 4-10. This packet contains pamphlets, guidelines, and information on rural health, and is for public distribution. The purpose of the week is to focus the attention of the American public on the health needs of rural America, to motivate rural citizens to become more health conscious, and to further rural-urban cooperation in health care issues.

I am sure you are already aware of this event, but I wanted you to know that the Auxiliary is very much interested in all areas of health education. Rural Health Week and health information pamphlets may help create some interest in more and better health education in schools, where it is sorely needed.

At the National Fall Confluence in Chicago last October, the National Auxiliary helped create interest in school health education by offering as one of its ten seminars a seminar in health education. The 400 people who attended the confluence rated the health education seminar as one of the four most popular seminars when they evaluated the meeting.

The seminar was well organized and the material was excellent. Dr. Carlyon stated that no broad definition can be given of what is health education, but he said one goal a school health curriculum should reach is teaching children how to think and make judgments. Matching a child's growth and development in school with his or her life experiences is important, and therefore, health education classes should be part of a student's curriculum from kindergarten through twelfth grade. He stressed the need to make health education classes as common as English and math classes, and also said health education should be a gradual and continual learning experience.

Thomas Higgins spoke on health education in high schools, and stated that health must be looked at and presented to this age group in an adult manner. This is a new viewpoint in teaching health education, and health in the school system now needs a total revamping. He mentioned that health education should keep pace with the news media, which presents health related concepts, deviations, and situations with which students are not familiar and, in many cases, confused.

The seminar emphasized the importance of having well qualified, specially trained teachers to teach health education. Colleges should provide specific training for health teachers, but only a few colleges now offer this special training.

We face a real challenge in health education in Kansas. Apparently no state law regarding health education exists in Kansas, but the state does have guidelines for development of health education curriculum. Some school districts have used these guidelines, and have developed and published their own curriculum, but many have a very disorganized, piecemeal type of training which is barely better than none.

Your Auxiliary believes that we should all be aware of the health education situation in our own communities, and try to be better prepared to efficiently meet the needs in this area.

Sincerely,
Anita Yoder
President
Woman's Auxiliary to the
Kansas Medical Society



For the Record

Yesterday I found it necessary to purge my files because I couldn't get one of the drawers closed. So I set upon the task of going through each file in order to discard any unnecessary fodder. Alas and alack! I find that the only changes necessary are to add a few new file headings. Do I really need to keep a copy of everything that comes across my desk? Perhaps not. But then again, if some day the Great Eagle should perchance choose to descend his lofty perch and visit our humble nest, it might be well to have a copy of everything. Of course nobody reads all that stuff, do they?

One must wonder if it will ever stop. Surely there must be a saturation point.

It is well to note that the first order of business each day in the Congress of the US is to forego the reading of the previous day's *Congressional Record*. Smart fellows. They know that it would take the average reader 2½ days to peruse one day's copy of the *Record*.

Almost all of the correspondence we receive from the Great Eagle is in draft form. Much of it is very drafty, *i.e.,* hot air. Yet, it's all "for the record;" and, for the record, I'll continue to keep my files full, just in case.—*J.E.A.*

RHEUMATOLOGY FELLOWSHIPS AVAILABLE

The Kansas Chapter of the Arthritis Foundation, in cooperation with the University of Kansas Medical Center, is now accepting applications for the annual fellowship program in Arthritis. This program consists of three four-week segments and is available to all licensed physicians in Kansas. The program is under the direction of Robert Godfrey, M.D., Rheumatology Section, KUMC, and Chief, Arthritis Section, Veterans Administration Hospital, Kansas City, Missouri. The segments are held at these Kansas City Hospitals.

There are openings for two fellowships during the 1976 calendar year. In addition, application can be made for consideration during the 1977 calendar year.

The maximum funding for each four-week segment is as follows:

$2,250.00 for a physician who is currently practicing in Kansas;

$1,250.00 for a non-practicing physician (*i.e.,* an intern or resident completing training) who is committed to practice in the state of Kansas.

No one individual may annually qualify for more than one four-week fellowship grant.

Each segment is progressively more advanced. A fellow may enter the program at any level consistent with his background and previous training. Ordinarily, a practicing physician who has had no special training in rheumatology enters the program in Segment #1. This segment is designed to provide an early review of basic rheumatology, which is followed by a broad but not necessarily comprehensive exposure to current concepts and techniques of clinical rheumatology, both diagnostic and therapeutic.

The goal of Segment #1 is to provide the practicing physician with a learning experience in rheumatology which will be scientifically sound but primarily practical. It permits the physician-fellow to return to his practice equipped to care for his arthritic patients with an exceptionally high degree of competence. It is not meant to produce specialists in rheumatology.

The other two segments are for physicians with previous special training who wish to move directly into more advanced work.

For additional information you may contact Charles C. Blackwell, Executive Director, Kansas Chapter, American Arthritis Foundation, 1602 E. Waterman, Wichita, KS 67211.

117th Annual Session
KANSAS MEDICAL SOCIETY

May 2-5, 1976
SALINA, KANSAS

Sunday, May 2–House of Delegates First Session, 9:00 AM –Marymount College

Monday, May 3–Sports Day, Salina Country Club

Tuesday, May 4–Scientific Sessions, Community Theatre

Wednesday, May 5–House of Delegates Second Session, 8:30 AM–Hilton Inn

Make Your Reservations Now!

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CLASSIFIED ADVERTISEMENTS

Kansas licensed, 52-year-old physician, trained in internal medicine, Board certified in pediatrics, in general practice 5 years, is looking for location in Kansas. Contact: Don C. Petersen, MD, 8417 Carter, Overland Park 66212. Phone: 913-341-6385.

Experienced, licensed, native born MD in 40s, certified in Pediatrics and Family Practice, available for weekend locum tenens or emergency room work within 100-mile radius of Topeka. Write Box 1-276 in care of the *Journal*.

Orthopedic Surgeon Vacancy. Board certified or eligible. 200-bed GM&S affiliated teaching hospital. Equal opportunity employer. Contact Acting Chief of Staff, V.A. Center, 5500 E. Kellogg, Wichita, KS 67218. Phone: 316-685-2221, Ext. 215.

PATHOLOGIST, certified AP and CP. Mid-40s. University trained, experienced in all fields of lab medicine. Seeks directorship of bospital; will consider lab or partnership position. Write Box 1-1275 in care of the *Journal*.

FOR SALE: Urology practice in Central Kansas. Write Box 2-1275 in care of the *Journal*.

28th annual MIDWEST CANCER CONFERENCE
march 19-20, 1976
century II
wichita, kansas



The Kansas Division of the American Cancer Society invites midwest physicians to attend a two-day graduate course on cancer, "Current Concepts in Breast Cancer and Lymphoma."

Guest Faculty:

STEPHEN K. CARTER, M.D.
Deputy Director
Division of Cancer Treatment
National Cancer Institute
New York, New York

BARTH HOOGSTRATEN, M.D.
Director, Division of Clinical Oncology
University of Kansas Medical Center
Kansas City, Kansas

WILLIAM M. MARKEL, M.D.
Vice President, Service & Rehabilitation
American Cancer Society, Inc.
New York, New York

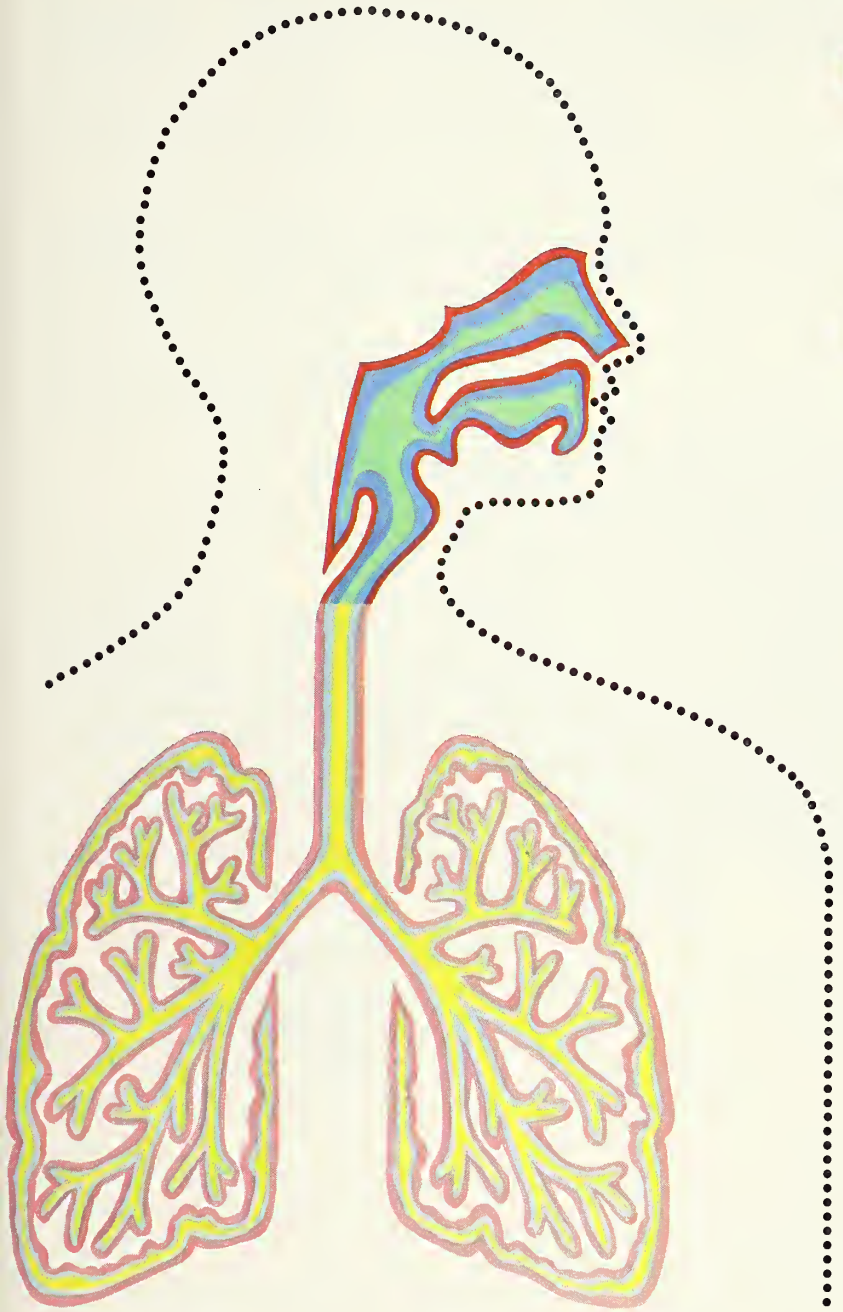
WILLIAM L. MCGUIRE, M.D.
Professor of Medicine
University of Texas Health Science Center
San Antonio, Texas

M. VERA PETERS, M.D.
Senior Radiotherapist
Ontario Cancer Institute
Consultant in Radiotherapy
Women's College Hospital
Toronto, Canada

RALPH C. RICHARDS, M.D.
Professor of Surgery
University of Utah College of Medicine
Salt Lake City, Utah

BARBARA H. TINDLE, M.D.
Asst. Professor of Pathology
University of Southern California
Los Angeles, California

Cold/Allergy and Cough Country



Rynatan® Country

RYNATAN, for symptomatic relief of colds and allergic rhinitis. Convenient b.i.d. tablet and liquid dosage.

Rynatuss® Country

RYNATUSS, for symptomatic relief of coughs due to colds and in acute and chronic bronchitis. Convenient b.i.d. tablet and liquid dosage.

Mallinckrodt® Pharmaceuticals *Linking chemistry to medicine®*

Mallinckrodt, Inc. St. Louis, Mo. 63147

RYNATAN®: Each tablet contains Phenylephnne Tannate, 25 mg.; Chlorpheniramine Tannate, 8 mg.; Pyrilamine Tannate, 25 mg.

Each 5 ml. (1 teaspoonful) RYNATAN® PEOIATRIC SUSPENSION contains: Phenylephrine Tannate, 5 mg.; Chlorpheniramine Tannate, 2 mg.; Pyrilamine Tannate, 12.5 mg. CONVENIENT B.I.D. OOSAGE for convenience and economy.

INDICATIONS: RYNATAN provides symptomatic relief of the coryza and nasal congestion associated with the common cold, other upper respiratory infections and allergic rhinitis. In sinusitis, drainage from the affected sinuses may be improved.

CONTRAINOICATIONS: RYNATAN is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery.

AOVERSE REACTIONS: Orowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

DOSAGE ANO ADMINISTRATION: RYNATAN TABLETS: 1 or 2 tablets every 12 hours.

RYNATAN PEDIATRIC SUSPENSION: For children over six years of age, 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours: for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTIDN: Federal (U.S.A.) law prohibits dispensing without prescription.

RYNATUSS®: Each tablet contains Carbetapentane Tannate, 60 mg.; Chlorpheniramine Tannate, 5 mg.; Ephednne Tannate, 10 mg.; Phenylephrine Tannate, 10 mg.

Each 5 ml. (1 teaspoonful) RYNATUSS® PEOIATRIC SUSPENSION contains Carbetapentane Tannate, 30 mg. Chlorpheniramine Tannate, 4 mg. Ephedrine Tannate, 5 mg.; Phenylephrine Tannate, 5 mg. CONVENIENT B I.D. OOSAGE for convenience and economy

INDICATIONS: In the treatment of coughs due to the common cold, asthma, and in acute and chronic bronchitis.

CONTRAINDICATIONS: RYNATUSS is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery.

AOVERSE REACTIONS: Orowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

DDSAGE ANO AOMINISTRATION:
RYNATUSS TABLETS: Adults—1 to 2 tablets every 12 hours.

RYNATUSS PEOIATRIC SUSPENSION: For children over six years of age, 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours; for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

The above represents a brief summary. See package inserts for full prescribing information.

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F Co., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation

Effectiveness across the spectrum of most common forms of insomnia

Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

- Awake
- REM
- Stage 1
- Stage 2
- Stage 3
- Stage 4



The insomnias most often occurring in young and older adults

For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories.[1-4]

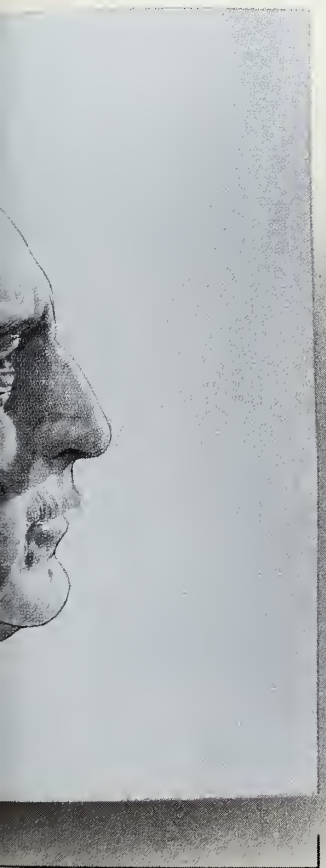
The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia



7 Hours



Awake too early

Dalmane®
(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

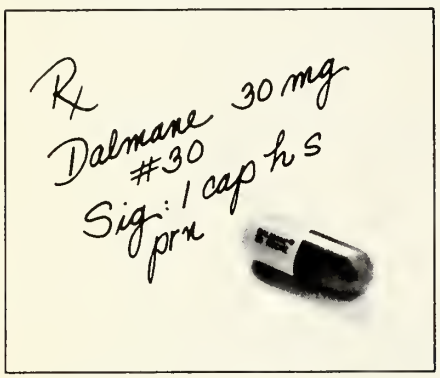
- □ induces sleep rapidly
- □ reduces nighttime awakenings
- □ lengthens total sleep time

ROCHE

Please see following page for a summary of complete product information.

Broad-spectrum medication for the most common forms of insomnia

Dalmane®
(flurazepam HCl) ℞ IV



Objectively proved in the sleep research laboratory, Dalmane

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971

2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medical Association, Houston, Apr 26-29, 1971

3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ



ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

adjunctive therapy for wound debridement

HELPS TO REMOVE:

- Necrotic Tissue and Associated Odor

HELPS PREPARE WOUND FOR:

- Granulation/Healing
- Granulation/Grafting



CLEANSE WOUND
Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound MUST be cleansed of antiseptics or heavy-metal antibacterials.



THOROUGHLY MOISTEN
Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g., sodium chloride or water solutions).



APPLY ENZYME
Apply a layer of TRAVASE Ointment. Assure intimate contact with necrotic tissue and complete wound coverage.



APPLY MOIST DRESSING
Apply loose moist dressings (most important with dry leathery eschar).



CHANGE DRESSINGS
When changing dressing, gently wipe away the dissolved material. Repeat the procedure, including application of TRAVASE Ointment, 3 to 4 times per day for best results.

Travase® Ointment
brand of Sutilains



Indications
For wound debridement (1,2)—TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

Second and third degree burns,
Decubitus ulcers,
Incisional, traumatic, and pyogenic wounds,
Ulcers secondary to peripheral vascular disease.

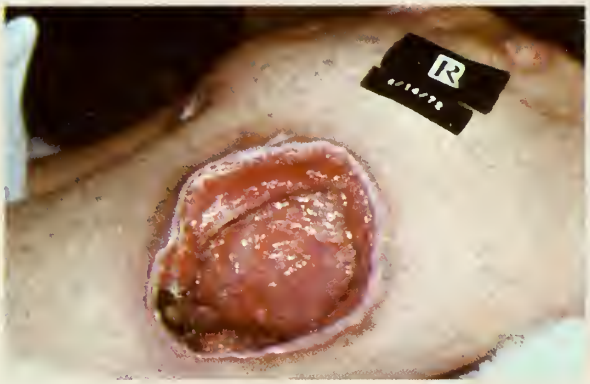
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Deerfield, Illinois 60015

Please see next page for prescribing information.

Travase Ointment brand of Sutilains

ulcers

TERRY V. CARLE, M.D., CLINICAL INSTRUCTOR, DEPT. OF PHYS. MED. & REHAB., CRAIG REHABILITATION HOSPITAL, UNIVERSITY OF COLORADO



Before treatment, necrotic matter coated the inner surfaces of this decubitus ulcer.



After six days of TRAVASE therapy, debridement is nearly complete and granulation evident.

burns

DALE B. DUBIN, M.D., DIPLOMATE, AMERICAN BOARD OF PLASTIC SURGERY, TAMPA, FLORIDA



Before treatment . . .



48 hours following treatment with TRAVASE Ointment on right hand; left hand is control.

Travase® Ointment

(brand of Sutilains)

Indications: For wound debridement, TRAVASE Ointment is indicated as an adjunct to established methods of wound care for biochemical debridement of the following lesions:

- Second and third degree burns,
- Decubitus ulcers,
- Incisional, traumatic, and pyogenic wounds,
- Ulcers secondary to peripheral vascular disease.

Contraindications: Application of TRAVASE Ointment is contraindicated in the following conditions:

- Wounds communicating with major body cavities,
- Wounds containing exposed major nerves or nervous tissue,
- Fungating neoplastic ulcers,
- Wounds in women of child-bearing potential—because of lack of laboratory evidence of effects of TRAVASE upon the developing fetus.

Warning: Do not permit TRAVASE Ointment to come into contact with the eyes. If contact is made, immediately rinse with copious amounts of water, preferably sterile.

Precautions: A moist environment is essential to optimal activity of the enzyme. Enzyme activity may also be impaired by certain agents (see package insert). Although there have been no reports of systemic allergic reaction in humans, studies have shown that there may be an antibody response in humans to absorbed enzyme material.

Adverse Reactions: Consist of mild, transient pain, paresthesias, bleeding and transient dermatitis. Pain usually can be controlled by administration of mild analgesics. Side effects severe enough to warrant discontinuation of therapy occasionally have occurred.

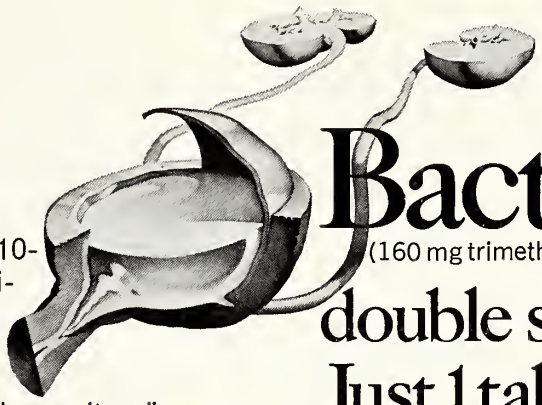
If bleeding or dermatitis occurs as a result of the application of TRAVASE Ointment, therapy should be discontinued. No systemic toxicity has been observed as a result of the topical application of TRAVASE Ointment.

DOSAGE AND ADMINISTRATION: STRICT ADHERENCE TO THE FOLLOWING IS REQUIRED FOR EFFECTIVE RESULTS OF TREATMENT:

1. Thoroughly cleanse and irrigate wound area with sodium chloride or water solutions. Wound MUST be cleansed of antiseptics or heavy-metal antibacterials which may denature enzyme or alter substrate characteristics (e.g., hexachlorophene, silver nitrate, benzalkonium chloride, nitrofurazone, etc.).
2. Thoroughly moisten wound area either through tubbing, showering, or wet soaks (e.g. sodium chloride or water solutions).
3. Apply TRAVASE Ointment in a thin layer assuring intimate contact with necrotic tissue and complete wound coverage extending ¼ to ½ inch beyond the area to be debrided.
4. Apply loose wet dressings.
5. Repeat entire procedure 3 to 4 times per day for best results.

FLINT LABORATORIES
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Deerfield, Illinois 60015

10-day Bactrim therapy outperforms 10-day ampicillin therapy.



In a multicenter, double-blind study of patients with chronic or frequently recurrent urinary tract infection, Bactrim 10-day therapy outperformed ampicillin 10-day therapy by 27.2%, when comparing patients who maintained clear cultures for eight weeks. Criterion for "clear culture" was 1000 or fewer organisms/ml of urine.

While adverse reactions were mild (*e.g.*, nausea, rash), more serious reactions can occur with these drugs. See manufacturers' product information for complete listing.

Note: Bactrim single strength tablets were used in these clinical trials. However, studies have established the bioequivalency of Bactrim DS with the single strength tablets.

Bactrim™ T.M. DS

(160 mg trimethoprim and 800 mg sulfamethoxazole)

double strength tablets Just 1 tablet B.I.D.

Bactrim™ T.M.

(80 mg trimethoprim and 400 mg sulfamethoxazole)

2 tablets B.I.D.

For chronic or frequently recurrent cystitis and pyelonephritis due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections evidenced by persistent bacteriuria (symptomatic or asymptomatic), frequently recurrent infections (relapse or reinfection), or infections associated with urinary tract complications, such as obstruction. Primarily for cystitis, pyelonephritis or pyelitis due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii.*

NOTE: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in these urinary tract infections. The recommended quantitative disc susceptibility method (*Federal Register, 37*:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. **Data are insufficient to recommend use in infants and children under 12.**

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12. Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) every 24 hours
Below 15	Use not recommended

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole — bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10.

Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored — bottles of 16 oz (1 pint).

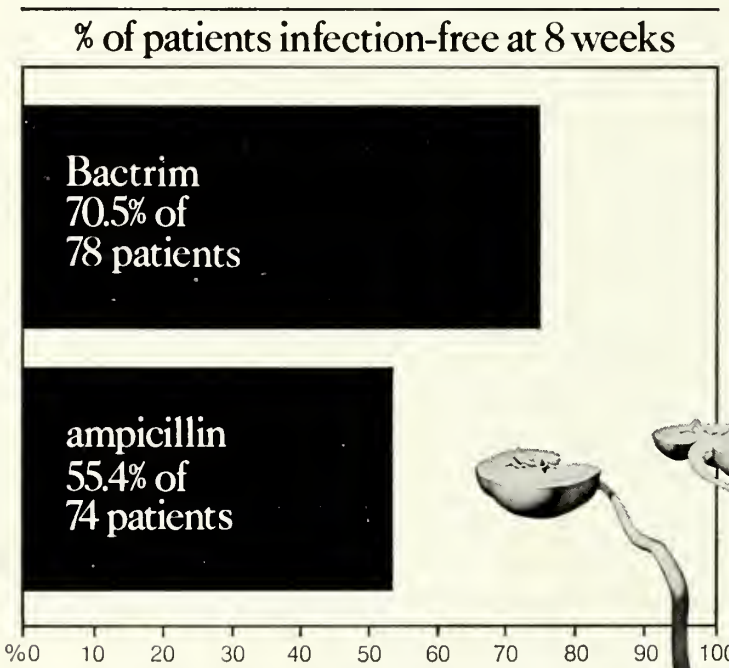
ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

In a multicenter study of patients with chronic or frequently recurrent urinary tract

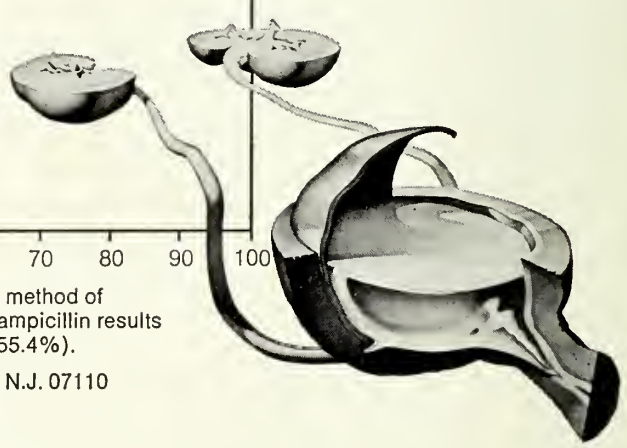
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San Francisco, Calif. 94143

Bactrim™ was 27.2%* more effective than ampicillin keeping patients infection-free for 8 weeks



*This percentage is arrived at by the statistical method of dividing the difference between Bactrim and ampicillin results (15.1%) by the percent of ampicillin results (55.4%).

†Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110



Bactrim™ DS
(160 mg trimethoprim and 800 mg sulfamethoxazole)
double strength tablets
Just 1 tablet B.I.D.

Bactrim™
(80 mg trimethoprim and 400 mg sulfamethoxazole)
2 tablets B.I.D.

Please see summary of product information on preceding page.

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KUMC Issue

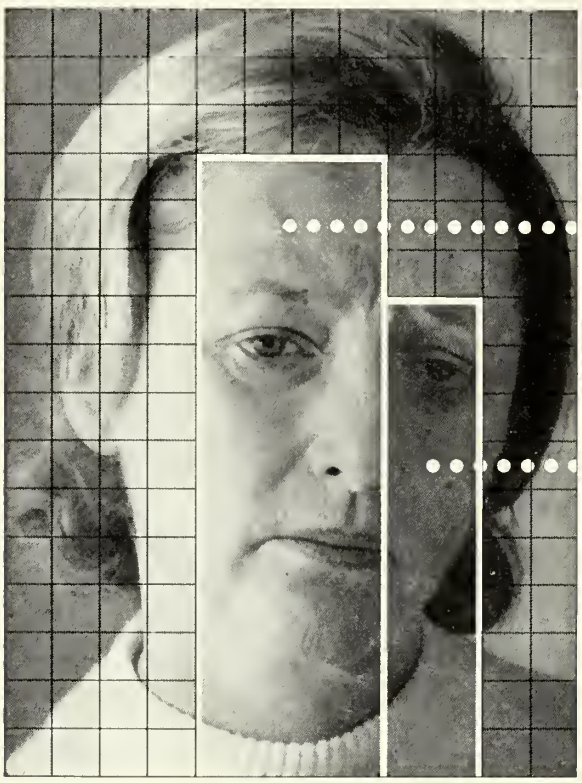
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MARCH
1976

VOL. LXXVII
NO. III

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequen and/or severity of grand mal seizures m require increased dosage of standard an convulsant medication; abrupt withdraw may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous in gestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) hav occurred following abrupt discontinuanc (convulsions, tremor, abdominal and mu cle cramps, vomiting and sweating). Kee addiction-prone individuals under careft

respond to one

According to her major
y ptoms, she is a psychoneu-
o c patient with severe
r iety. But according to the
l cription she gives of her
e ings, part of the problem
n / sound like depression.
T s is because her problem,
l ough primarily one of ex-
e ive anxiety, is often accom-
a ied by depressive symptom-
t ogy. Valium (diazepam)
a provide relief for both—as
n excessive anxiety is re-
e ed, the depressive symp-
o s associated with it are also
f n relieved.

There are other advan-
e s in using Valium for the
n agement of psychoneu-
c c anxiety with secondary
e ressive symptoms: the
s chotherapeutic effect of
i ium is pronounced and
i id. This means that im-
n vement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

v eillance because of their predisposi-
to habituation and dependence. In
g nancy, lactation or women of child-
r ing age, weigh potential benefit
i nst possible hazard.

c autions: If combined with other psy-
t tropics or anticonvulsants, consider
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v ed; drugs such as phenothiazines,
c otics, barbiturates, MAO inhibitors
other antidepressants may potentiate
a ction. Usual precautions indicated in
e ents severely depressed, or with latent
r ression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Vol. LXXVII, Number 3—March, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society. Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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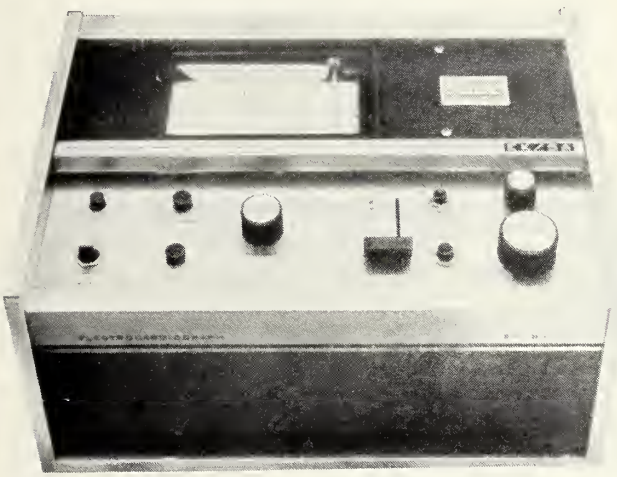
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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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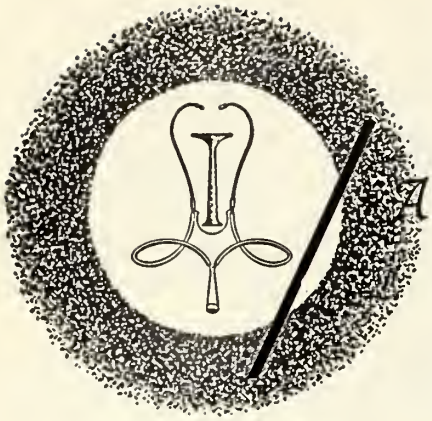
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Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the* Doctor's Calendar. *Notice of the session is posted in advance to allow the physician time to make preparations.

MARCH

Mar. 25-27	Clinical Neuro-Otolaryngology, Pittsburgh. INFO: S. N. Busis, M.D., Eye and Ear Hospital, Pittsburgh 15213.
Mar. 27-31	American Society of Abdominal Surgeons, Pick Congress Hotel, Chicago. INFO: B. F. Alfano, M.D., 675 Main, Melrose, MA 02176.

APRIL

Apr. 3	*Intestinal Bypass,* Wichita, KS. INFO: Lin Bertsch, Center for Educational Development, College of Health Related Professions, Wichita State University, Wichita, KS 67208.
Apr. 4-9	American College of Allergists, Las Vegas Hilton, Las Vegas. INFO: E. Bauers, 2100 Dain Tower, Minneapolis 55402.
Apr. 5-8	American College of Physicians, Civic Center, Philadelphia. INFO: Convention Dept., American College of Physicians, 4200 Pine, Philadelphia 19104.
Apr. 8-9	AMA National Conference on Rural Health, Hyatt Regency, Phoenix. INFO: AMA Dept. of Rural and Community Health, 535 N. Dearborn, Chicago 60610.
Apr. 10	Anesthesia Seminar, Illinois Society of Anesthesiologists, University of Illinois at the Medical Center, Peoria, IL. INFO: B. V. Wetchler, M.D., Division of Anesthesia, Peoria School of Medicine, 1400 W. Main Street, Peoria, IL 61606.
Apr. 21-23	American College of Physicians, Nashville. Eligible for Category I credit. INFO: Registrar, Postgraduate Courses, ACP, 4200 Pine Street, Philadelphia, PA 19104.
Apr. 26-29	American College of Surgeons, Boston. INFO: C. R. Hanlon, M.D., 55 E. Erie, Chicago 60611.

MAY

May 2-5	**Kansas Medical Society 117th Annual Session, Hilton Inn, Salina.**
May 16-20	American Urological Association, Las Vegas Hilton, Las Vegas. INFO: H. B. Jennings, Jr., M.D., 1120 N. Charles St., Baltimore 21201.
May 17-18	Health Problems of Skin, Washington, D.C. INFO: Frank Chappell, AMA, 535 N. Dearborn, Chicago 60610.
May 22-23	Selected Topics in Gastroenterology, American Gastroenterological Association, Fontainbleau Hotel, Miami Beach. INFO: AGA, 6900 Grove Road, Thorofare, NJ 08086.
May 22-25	Southwest Allergy Forum, Hilton Palacio del Rio Hotel, San Antonio, TX. INFO: P. B. Kamin, 601 Oak Hills Medical Building, San Antonio, TX 78229.
May 27-29	American Cancer Society, National Conference on Radiation Oncology: *Present Status and Future Potential,* San Francisco Hilton and Tower, San Francisco. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Ave., New York 10017.

JUNE

June 13-16	Rocky Mountain Neurosurgical Society, Inc., Desert Inn and Country Club, Las Vegas. INFO: R. H. Moiel, M.D., Secretary, 601 Medical Towers, 1709 Dryden Street, Houston, TX 77025.
June 20-22	American Diabetes Association, Hilton, San Francisco. INFO: E. M. Frost, W. 48th Street, New York 10020.
June 26-July 1	American Medical Association Annual Meeting, Dallas. INFO: J. H. Sammons, MD, 535 N. Dearborn, Chicago 60610.

(Continued on page 91)

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Vox Dox

Vox Dox Editor:

The Reno County Medical Society has introduced a comprehensive medical liability bill in both the Senate (#776) and House (#3002). Fundamentally, the bill is a modified form of the successful "Indiana Plan" and is the one which was to be formally introduced by the Kansas Medical Society until the report of the Interim Study Committee was released.

It is felt by many people knowledgeable in this problem that, even if all of the Interim Study Committee bills are passed, the inevitable result will be another year of rapid deterioration in the already critical malpractice climate in our state. The chief objective of the Interim Study Committee bills is to guarantee only the availability of malpractice insurance. Fletcher Bell's plan, including the establishment of the $10 million fund, would demand an unlimited input of money by the health care providers of Kansas, principally the physicians. The ability to borrow from the state when and if the $10 million fund became exhausted merely makes this an "unlimited" fund. The claims-made mandatory feature is totally unacceptable to almost every major medical group in the country except for a few of the state medical societies. The "tail," although cleverly buried, is still the same but with different people paying for it. Many other strong objections to this plan are known, but perhaps of major importance to the majority of physicians is the knowledge that the simple creation of a large pool of money for payment of excessive malpractice claims is clearly self-defeating. The only remote way in which many of us feel it could have any part in this solution would be if it accompanied extensive malpractice reforms, such as our Omnibus Bill. We feel that if the Omnibus Bill were passed a large fund would not even be needed.

The malpractice problem has become far too critical to allow any thought of political expediency to interfere with the urgent need to do something constructive *now!!* Undue concern over the possible constitutionality issues seems clearly to be of secondary importance to us.

Paradoxically, many of us believe that *any* modification of the tort system in the long run is doomed to failure; however, the possible alternatives such as the workman's compensation approach or "going bare" presently are slightly premature. They are being explored in various states and in our own state, however, and need to be. The New York State Governor's Malpractice Commission several weeks ago recommended a workman's compensation type of program to be adopted as a long term answer to their horrendous problem.

We wish to state that we all owe a great debt to our KMS Malpractice Committee for its efforts in exploring this complex problem and arriving at what was felt by them to be the ideal bill for introduction from our society. Furthermore, we clearly understand why the decision not to introduce this legislation was made, although it should be stated that it clearly was not a unanimous opinion of all those involved at the state level. We simply happen to disagree strongly with this decision; at the same time, we agree totally with the program which was outlined by our KMS leaders initially.

We all know that the patient clearly is the one who will be hurt the most by increasing medical costs and decreasing availability of health care in Kansas in the up-coming year if something truly constructive, such as our Omnibus Bill, is not passed by the Kansas Legislature. We strongly urge that all of the physicians of Kansas support the Omnibus Bill vigorously now, by notifying your community leaders, media, state senator, and representatives of your stand in this truly critical issue. If for no other reason, we feel this needs to be done to alert the general public to the knowledge that the Interim Study Committee bills alone cannot possibly solve the situation to any degree. If we can do this, we will have accomplished something. We all know that we will hear the words, "Why didn't you tell us how bad it was going to get, Doctor?," and at least we'll be able to say, "We told you so."

Let us all stand united behind this Omnibus Legislation which has proven so successful in Indiana, and in so doing demonstrate to the political leadership of our state, to the Kansas Bar Association, to ourselves, and to our patients that we can speak with one voice, and a strong one, when it is essential to do so.

W. J. Von Ruden, M.D.
Reno County Medical Society
Malpractice Committee


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the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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Announcements

(Continued from page 84)

June 26-27 — American Association for the Study of Headache, Sheraton-Dallas, Dallas. INFO: S. Diamond, M.D., 5252 N. Western Ave., Chicago 60625.

June 28-July 4 — International College of Surgeons, Hyatt Hotel, Cherry Hill, PA. INFO: M. Lento, 1516 Lake Shore Drive, Chicago 60610.

University of Kansas School of Medicine

Apr. 24 — *Management of the Trauma Victim,* KUMC, Battenfeld Auditorium, Kansas City, KS.

May 22 — *Pediatric Emergencies,* KUMC, Battenfeld Auditorium, Kansas City, KS.

For further information, write the Division of Continuing Education, KUMC, Kansas City, KS 66103.

May 21 — *Massive Gastrointestinal Bleeding,* KUMC-Wichita Branch, St. Francis Hospital, Wichita. INFO: Dept. of Surgical Education, St. Francis Hospital, Wichita 67214.

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The Dean's Letter—1976

The University of Kansas Medical Center

DAVID W. ROBINSON, M.D.,* ***Kansas City, Kansas***

YOUR MEDICAL SCHOOL, now officially known as the University of Kansas College of Health Sciences, has recently published its mission statement. The most significant declarations were:

1. To provide the opportunity for its students to acquire a sound basic education in medicine and to foster the development of life-long habits of scholarship and service . . .

2. To stimulate research for the advancement of knowledge . . .

3. To enhance the delivery of health care services to the people of Kansas.

Analysis of these three primary goal statements makes the importance of this facility and the reasons for its being more meaningful.

Education

A. School of Medicine

Currently, there are 564 enrolled medical students chosen from approximately five times as many applicants. Ninety-two per cent of the 200 admitted in the class starting in July 1975 are residents of Kansas. Of these, 16 per cent are women and some 6 per cent are from minority groups. Each year, the academic records (grade point average [GPA] and medical aptitude scores [MCAT]) are higher and the number of applicants is increasing, so that competition is keen. Carefully selected lay members were added to the Selection Panel this winter. A slightly different concept from that of the faculty will provide for the people of Kansas a greater understanding of the problems of selection. Students selected represent all parts of the state.

The two main campuses, Kansas City and Wichita, complement each other, but are stressed to capacity, at least until the new clinical facilities in Kanssas City are completed, probably in 1978. All basic science courses are taught in Kansas City, but the clinical years may electively be taken in either of the large cities (28 students are currently in Wichita and 55 will ultimately be located there). Some provisions are made for instruction for short terms in many cities and towns throughout the state. Students may elect to complete the curriculum in three years, but often several months to a a year beyond 36 months is required to complete the courses.

Support from governing bodies, the Board and Regents, and the legislature has been generous. The new basic science building (K.C.) will be occupied this year, and a new administrative headquarters (Wichita) is planned for construction. The expansion of clinical training sites, including the preceptorships and new student programs contemplated in various areas, have been enthusiastically supported by the doctors of Kansas.

Federal support for education of medical students is less than in former years. Contraction of the capitation grant monies has required some budget adjustments, including a sharp regulation of spending and hiring, as well as a modest increase in tuition effective January 1, 1976. Federal money for student loans has been decreased, but state funds in the form of loans, to students who agree to practice in rural areas where there is a shortage of doctors, are available.

The budget figure for operation of the medical school in 1977 appears on paper to be an enormous outlay of $77.6 million, but it must be realized that only 40 per cent of this figure involves state general revenue funds, the rest (60%) being generated by the hospital, the staff, federal support in grants, and a few other miscellaneous sources. Fiscal support of the clinicians is provided by very little state money, with most all of their income being derived from private practice. The staff, who provide largely tertiary type care, is limited by the facilities provided and by a ceiling imposed on income by contractural agreement.

B. School of Nursing

The School of Nursing offers baccalaureate and master's courses in addition to a training program for nurse practitioners, and a continuing education division for registered nurses. Enrollment is over 300. A broad outreach program throughout the state will offer higher degrees in nursing. A new Dean, Dr. Doris Geitgey, appointed in early 1975, has brought a greater thrust to the nursing program.

Acting Executive Vice-Chancellor; Vice-Chancellor for Clinical Affairs; KUMC Distinguished Professor; Director, Burn Center; Professor, Department of Surgery; Lecturer, History of Medicine; University of Kansas Medical Center, Kansas City, Kansas 66103.

C. School of Allied Health

Technical training in many paramedical fields is offered. Current enrollment in such studies include laboratory, radiological, emergency medical care, physical and respiratory therapy, speech and hearing trainees, dietitians, medical record administrators, and others, making a total enrollment of over 1,800 in the college. The School of Allied Health will undoubtedly grow under the leadership of the Dean to be appointed soon for its administration.

Research

Good teaching requires more than exposure to accepted knowledge. The stimulation of research adds immeasurably to the motivation of the young inquiring mind and not only affects the student, but prompts the teacher to do a better job. Without research, an institution cannot be called a university. Including support from the federal government and private sources (foundations, trusts, and individuals), and the overage income from the faculty corporation earnings, the total research effort spent over $10 million last year. Continued support is essential to the health of the medical school. Support from the state will again be sought, although general revenue funds have not been made available for research in the School of Medicine. The stimulus for new programs comes out of research efforts and a combination of service and research is a *sine qua non* of progress: advances in transplantation, renal dialysis, cardiothoracic care, hematology, neonatology, cancer, microvascular techniques, burn care, head trauma, prosthetics, hearing and speech problems, and a host of others.

Health Care Delivery

A leadership role in health care planning and delivery is a function of the university. The rural health study made by a university committee (Walker Committee) has been a useful continuation of studies embarked upon over five years ago. Recommendations for health service are being studied and will be implemented, although there are numerous plans emanating from many sources and the final authority has not been named.

A clearinghouse of information in regard to area needs by town and district, and availability of health care providers is needed. Such a listing is available in the office of the Associate Vice-Chancellor on the Kansas City campus and information may be obtained there. The university wishes to cooperate with all planning agencies for health care delivery, and offers its manpower and facilities to help solve this difficult problem. The "Kansas Day" and the WSU "Physician Awareness Day" both held last fall were successful in discussing the issues and bringing together the potential providers and those needing services. Faculty participation in many sessions with legislators, state medical society members, and federal and local groups has taken a great deal of time and effort and is beginning to show signs of success.

The future of health care delivery depends upon many overlapping influences, including federal, state, local, organized medical, labor unions, accreditation boards, and others. Your university medical school can offer leadership, and wishes to be a part of the effort to solve health problems of the people of this state.

Kansas Preceptorship Program

Recent Experiences at KUMC

JOE R. KIMMEL, M.D., Ph.D.,* ***Kansas City, Kansas***

RURAL PRECEPTORSHIP as a requirement for the degree of Doctor of Medicine at the University of Kansas School of Medicine was first instituted with the class of 1951. Some ten years of experience with the program was reviewed by Rising, in 1962.[1] Since that time the preceptorship has continued to be a requirement for graduation from this medical school, although there has been a decrease in the amount of time that a student is required to spend under the direction of a preceptor. In 1970, the faculty reviewed the preceptorship program and made some changes, the most significant of which was the admission of specialists to the program. In April 1972, the whole subject of the preceptorship requirement was brought before the entire medical faculty at the University of Kansas, and this group reaffirmed preceptorship as a requirement for graduation. The requirement as it now reads is as follows: "Satisfactory completion of a preceptorship of 4 weeks duration with a practicing physician in the state of Kansas is a requirement for the degree Doctor of Medicine at the University of Kansas School of Medicine." The guidelines presently in effect for administration of this program are given below.

General Guidelines

Type of Preceptorship. Students will be allowed to choose the type of preceptorship they desire within the selection given below. The program director must be notified of the choice at least eight weeks prior to the beginning of the preceptorship.

Specialty	*Type of Practice*
Family Practice	Single
Surgery	Partnership
Medicine	Mixed Specialty Group
Pediatrics	
Pathology	
Radiology	
Psychiatry	
Gynecology-Obstetrics	
Anesthesiology	
Dermatology	
Orthopedic Surgery	
Neurology	

Assignment of Students. Students may not select a given preceptor. This assignment will be made by the program director in a manner such as to assure an equitable distribution of the work load among available preceptors. If the student elects a mixed specialty group, he will be assigned to a specific preceptor within that group.

Fulfillment of Requirement. Satisfactory completion of the preceptorship requires that the student:

1) Spend four consecutive weeks under the direction of a preceptor (see below for definition);
2) Perform satisfactorily (in the judgment of the preceptor) during this period;
3) Submit an evaluation of the preceptorship experience on forms provided by the director;
4) Otherwise comply with regulations governing the preceptorship program.

Waiver of the Preceptorship Requirement. Under special circumstances, the preceptorship requirement may be waived or altered. Students wishing to request such action must:

1) Submit in writing, at least 12 weeks in advance, a request for waiver of the preceptorship requirement. This request should be submitted to the director of the preceptorship program.
2) The request for waiver must be accompanied by a written statement describing specific ways in which the proposed alternate program would advance the student's career and educational objectives better than the preceptorship.
3) This statement should be accompanied by a supporting document from a faculty advisor familiar with the student's objectives, and preferably will be in the discipline in which the student proposes a career.

The completed request for waiver will be taken to the Education Committee for approval or disapproval. The student will be notified as promptly as possible of the committee's action and, in the event of approval, the director will notify the registrar.

* Professor of Biochemistry and Associate Dean for Faculties and Academic Affairs, KUMC, Kansas City, KS 66103.

Address reprint requests to Dr. Ralph Reed, KUMC, Kansas City, KS 66103.

Guidelines Relating to Preceptors

Definition of Preceptor. A preceptor is defined as a duly licensed Doctor of Medicine, practicing in the state of Kansas, who holds an appointment as Preceptor in Medicine granted by the Dean for Faculties and Academic Affairs of the University of Kansas School of Medicine.

Appointment of Preceptors. For a physician to be appointed Preceptor in Medicine, he must be:

1) willing to serve as a preceptor after being informed of the duties and expectations of a preceptor;
2) acceptable to the medical school department in the proposed preceptor's specialty;
3) approved by the Education Committee;
4) approved and appointed by the Dean for Faculties and Academic Affairs of the University of Kansas School of Medicine.

Termination of Appointment. Appointment as preceptor may be terminated by request of the Preceptor or at the discretion of the Dean for Faculties and Academic Affairs.

Program Director

The director of the preceptorship program will be appointed by the Dean for Faculties and Academic Affairs. He will be responsible for scheduling students' preceptor assignments within the guidelines specified. He also shall be responsible for maintaining a roster of preceptors in the specialty and practice types indicated.

Collecting Data from Students

As stated in the Guidelines, each student is required to submit an evaluation of his preceptorship experience, a procedure that involves completion of a questionnaire supplied by the school. A sample of this questionnaire is shown below.

Name of Student
Module & Year
Name of Preceptor
Location

1. What did you like best about your preceptorship?
2. What did you like least about your preceptorship?
3. Estimate the percentage of your work time spent in each of the following activities:
 Seeing new patients in the office
 Seeing old patients in the office
 Hospital rounds
 Working up hospital cases
 Laboratory work
 House calls
 Emergencies
 Conferences with the preceptor or other doctor
 Other (specify each)

4. How much responsibility did you have for patient care? (Please check the one which most nearly describes your experience):
 None
 Some responsibility with supervision of preceptor
 Complete responsibility, no supervision given
5. Estimate the percentage of patients you saw in each of the following categories:
 Geriatric patients
 Pediatric patients
 Obstetric patients
6. Did you attend or participate in any social activities or civic functions in or near the community during your preceptorship? If yes, please list.
7. Would you like your practice to be similar to that of your preceptor? Why or why not?
8. What do you think would have improved your own specific preceptorship experience?

It should be noted that, whenever possible, the students were asked to answer questions about their experience with an original statement rather than to make a check mark in an appropriate box.

From our records and from responses to this questionnaire from 483 graduates over a period of four years, we have collected data that give us some insight into student opinions and attitudes about the preceptorship experience and the type of practice they seem to prefer.

Results

At the time specialists were admitted to the preceptorship program, one goal was to have available to the student a selection of preceptorship opportunities that were representative of the types of medicine practiced in the state of Kansas. Thus, in the specialty areas were included surgeons who were in solo practice or in surgical partnership, and surgeons who were in practice in a specialty group. Individuals practicing alone in small and larger communities, and family practice groups in small and larger communities were included in the area of family practice. Although the student was not allowed to select the individual preceptor, because of a desire to distribute the load as evenly as possible and to conform to the wishes of the preceptors as to when they could accommodate a student, the student was given a choice within the categories mentioned above.

Table I shows the students' choice of preceptorship by graduating class. The majority of the students chose family practice preceptorships, and the most popular specialties were general surgery, internal medicine, and pediatrics. Table I also shows some possible trends. If one compares the class of 1971 with the class of 1974, it is apparent that there is an increasing number of students who selected family practice preceptorships. This increase is at the expense of the specialties, in particular

TABLE I

PRECEPTORSHIP SPECIALTY CHOICES

Specialty	Graduating Class 1971 NO.	%	1972 NO.	%	1973 NO.	%	1974 NO.	%	Total All Classes NO.	%
Family practice	33	35	33	28	58	46	73	50	197	41
Internal medicine	24	26	22	19	14	11	22	15	82	17
General surgery	8	9	14	12	20	16	15	10	57	12
Pediatrics	13	14	14	12	14	11	12	8	53	11
Radiology	1	1	8	7	4	3	7	5	20	4
Anesthesiology	1	1	3	3	4	3	5	3	13	3
Orthopedic surgery	1	1	8	7	2	2	2	1	13	3
Gynecology-obstetrics	3	3	0	0	5	4	4	3	12	2
Psychiatry	1	1	6	5	2	2	2	1	12	2
Pathology	3	3	4	3	0	0	2	1	8	2
Neurology	3	3	4	3	1	1	0	0	8	2
Dermatology	1	1	1	1	1	1	0	0	3	1
Other	1	1	1	1	0	0	3	2	5	1
Total number of students	93		118		125		147		483	

the specialty of internal medicine. There is no readily apparent reason for this from the information at hand. On the basis of responses to the questionnaire, internists appear to give as much responsibility to the preceptee as other practitioners, and in other respects the students report a favorable experience with internists.

With regard to the size of the community, 67 per cent of the students were in towns over 5,000, while the remainder were in towns under 5,000 *(Table II)*. In family practice, however, the distribution was essentially equal between these two groups of communities.

Sixty-seven per cent of the students served their preceptorship with a group practice, either family practice or specialty. The remaining students were with single practitioners.

There is a question on the student evaluation form that asks, "Would you like your practice to be like that of your preceptor?" The vast majority of the students responded "Yes" to this question, particularly in the specialties. The response to this question does not appear to be related to whether the preceptor is in a group or solo practice, nor to the size of the community in which he/she practices, except in the case of family practice. The data for family practice given in *Table II* indicate that the majority of the students answered "Yes" to the question except in the case of solo family practitioners in towns of less than 5,000 population, in which case almost 50 per cent of the students gave a "No" response. It is noteworthy that almost 80 per cent of the students with a solo family practitioner in the larger communities gave a "Yes" response, and more than 60 per cent of those who were with a family practice group in a town of less than 5,000 responded positively. Therefore, it was neither the small community nor the lone family practitioner but the combination of the two that the students found undesirable. Many students in this group gave a reason for answering negatively, and in no case did it involve criticism of the preceptor. Almost all of the students saw their preceptor in this situation as a dedicated man who was overworked and somewhat isolated, and commented that in their view this was an undesirable situation.

TABLE II

FAMILY PRACTICE PRECEPTORSHIP
Distribution of Students

Town Size	Single	Group	%	Total
< 5,000	45	29	49	74
> 5,000	35	43	51	78
				152*

Practice Similar	Town < 5,000 SINGLE %	Town < 5,000 GROUP %	Town > 5,000 SINGLE %	Town > 5,000 GROUP %
Yes	42	63	79	74
No	47	20	14	12
Undecided	11	17	7	14

* Forty-five students who chose family practice preceptorships are not included in this table since they completed their preceptorship experience before the questionnaire was developed.

The remainder of the data obtained from our questionnaire are largely subjective, and the responses vary with the student and the interpersonal relationship between the student and his preceptor. This is illustrated especially clearly in regard to the response to the question, "How much responsibility did you have for patient care?" The student could answer in three categories: none; some, with supervision of the preceptor; complete, no supervision given. Between 70 and 80 per cent of the students responded that the preceptor gave them some responsibility but supervised them; some 8 per cent said they were given complete responsibility; the remainder thought they had no responsibility at all. An interesting finding is that students working under the same preceptor at different periods would often give diametrically opposed responses. A student would say that he received no supervision whatsoever from a given preceptor, and the very next student who worked with that doctor would respond that he was given no responsibility at all. Thus, there is considerable variation in the student's own evaluation of the amount of responsibility he/she was given, but it is also realized that the preceptor's willingness to delegate some responsibility depends somewhat upon the student's knowledge and ability as evaluated by the preceptor. The vast majority of the students felt they were given some responsibility but were aware that the preceptor was supervising them and was available for counsel.

The students' estimate of the percentage of their work spent in different activities indicated that they spent at least 30-50 per cent of their time seeing old and new patients in the office practice of medicine. Another 15-20 per cent was spent on hospital rounds, and some 10 per cent working up hospital cases. It was gratifying to learn that about 10 per cent of their time, in the estimate of the students, was spent in conference with the preceptor or other physicians. Between 60-70 per cent of the students in each of the classes were involved in the social and civic obligations of the preceptor. One of the goals of the preceptorship is to provide a student with some idea of how the physician functions in his community.

The students were asked to state what they liked best and what they liked least about their preceptorship. As would be expected, there were a great variety of answers, but they could be grouped into recognizable categories for analysis, especially in regard to the features best liked. There were two such features of the preceptorship program that appeared most prominently.

First, the preceptor himself, notably his willingness to teach and his attitude towards the student rated highly. This indicated to us that most students formed a good relationship with their preceptor and appreciated the one-to-one method of teaching. The next most prominent feature was the responsibility given them in the direct care of patients, *i.e.,* active participation in the doctor's practice. The third most prominent and best liked feature was the over-all experience, and it is quite apparent that the former two features were major contributors to this evaluation. The opportunity to see how a practicing physician lived and worked, and the variety of patients were the next most often mentioned best liked features.

The variety of comments in response to "What did you like least about your preceptorship?" made it very difficult to categorize the responses. The single most prominent response was the lack of responsibility for patient care. This is amusing, because one of the most prominent good features was the responsibility for patient care given to the students by the preceptor. It is interesting that this feature was mentioned about 10 per cent of the time in all of the specialties, including family practice, with the exception of the specialty of pediatrics. In pediatrics, 20-30 per cent of the students said this was the least liked feature of their preceptorship experience. The next most frequent complaint was an unbalanced patient population. Some students even mentioned that the doctors spent "too much time with old people," a statement that suggests that our efforts to teach students that illness and age are frequently related have not been completely successful. Long hours, being away from home and family, the living facilities provided by the preceptor, and the travel expense appeared as the least liked features, each 2-3 per cent of the time. Finally, the only other complaint that occurred often enough to categorize was the minimal social life of the town where they were stationed.

In the entire number of students surveyed, seven students mentioned that the least liked feature of the preceptorship was an instance of what he/she regarded as less than acceptable patient care on the part of the preceptor. These seven complaints involved family practice, anesthesiology and surgery, and pertained to six different preceptors. Since no such incidents were mentioned by many other students who worked under the direction of these same preceptors, it is safe to assume that these were isolated incidents.

Only a few students in each class requested waiver or alteration of the preceptorship requirement. Such requests were approved if the experience desired by the student was unavailable in Kansas, or if the student's interests were such that he/she would benefit little from a preceptorship experience. As is evident from *Table I* (category "Other"), less than 1 per cent of the students observed fulfilled their preceptorship requirement in a special manner.

Two types of preceptorship program are currently in operation at the University of Kansas School of

Medicine. In addition to the program operating under the guidelines given in this paper, there is the program recently described by Defoe and Hollowell.[2] The latter is more structured and permits interchange among students, preceptors, and faculty. Both types of preceptorship fulfill the graduation requirement.

Summary

In general, students approaching graduation view the preceptorship as a valuable part of their medical education, and many voice the opinion that it should remain a requirement for the MD degree. This opinion was based not only upon the value of the experience, but also upon the opinion that the program would end if made elective, because of the inconvenience and disruption of home life that occurs when the student leaves for a month. It would be simpler to take an elective course in Kansas City rather than an elective preceptorship 100 miles away, even though the latter was admittedly a very valuable experience.

It is not known whether the preceptorship experience in Kansas has an influence upon the student with regard to plans for type and locale of future practice. In a recent study at the University of Wisconsin,[3] the preceptorship influenced the student's choice of specialty but had little or no influence upon the eventual location of his practice. Judging from student responses, the image presented by most preceptors was favorable, but the extent to which this affected student's choice of practice should be the subject for future study.

Acknowledgment

James N. DeNio, Ed.D. assisted in assembly and computer processing of the data presented; Edward C. Defoe, Jr., M.D., Robert G. Pierleoni, Ed.D., Jesse D. Rising, M.D. and Ralph R. Reed, M.D. provided helpful criticism of the manuscript.

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Established Goals, New Directions

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THE PRECEPTORSHIP Program of the University of Kansas School of Medicine was initiated in 1950. Since that time, every medical student has participated in a preceptorship experience of at least one month's duration as a requirement for the MD degree.

An experimental preceptorship program, now in its third year, has added some new dimensions to the original program. These two programs have now been merged administratively. This paper will compare and contrast the two programs in terms of goals, progress to date, future plans, and proposals for evaluating the effectiveness of the preceptorship experience.

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Historical Perspective

National

The first medical preceptorship, as we know it today, was begun at the University of Wisconsin, in 1926. Its goals were to:

> . . . take the students out of the university environment and expose them to medical practice; to give them increasing responsibility under supervision of experienced, able practitioners, and to enable them to experience the intricacies of competitive practice.[1]

Since the inception of the Wisconsin program, many medical schools have instituted preceptorship programs.

Although there are differences among these programs relative to length, scheduling, type of practice utilized and community settings, the basic purposes are essentially the same as those stated for the Wisconsin program.[2]

The Kansas program is one of the oldest, having been established at a time when the preceptorship experience was relatively unique in American medical education. There has been an increase in preceptorship programs nationally as a part of the emerging reemphasis on primary health care and of the role assigned to family medicine practitioners to meet this health care need. The preceptorship serves to expose students to primary health care problems, to the physicians who must deal with these problems, and (in most programs) to rural areas or small towns in need of health professionals.

In the past, with the exception of the first years of the Kansas program, preceptors were often peripheral to the primary educational functioning of medical schools. Their contributions went largely unmonitored and unrecognized, and only rarely did pedagogical concerns of preceptors receive serious recognition by the medical schools. In order to bring the preceptor into a clearer central position concerning medical education, the First Midwest-Intermountain Regional Preceptorship Convocation was held in Steamboat Springs, Colorado, on August 21-22, 1974. Community preceptors and medical school faculty members from programs sponsored by the universities of Kansas, Utah, Minnesota, and Pennsylvania attended the session.

By sharing information through descriptive reports from the institutions and communities in these states, the group identified surprisingly common objectives, problems, and outcomes. Further, the participants identified the need to better integrate the preceptorship program into the medical curriculum, to recognize the preceptors as legitimate faculty members, to develop improved means for evaluating the programs, to plan educational programs for preceptors and university faculty, to encourage coordination and discussion among preceptors in the state, and to continue to work on program goals and objectives.

The group also expressed the belief that subsequent meetings could strengthen the position of preceptors in medical education by continuing to share ideas and experiences, developing goals and objectives, refining evaluation methods, exploring research possibilities, promoting faculty, student and preceptor interchange, and developing strategies for improving public interest in preceptorship education.

Kansas

In a 1956 article, Dr. W. Clarke Wescoe, then dean of the medical school, stated:

> . . . the purpose of the preceptorship program (is) to present to the medical student the broadest aspects of the practice of medicine, aspects that cannot well be shown him within the walls of a complex and specialized teaching institution. . . . There are many facets of the practice of medicine which cannot be adequately presented in formal classroom and laboratory sessions. These aspects of the practice of medicine are, nonetheless, exceedingly important; indeed, they equal in importance the thoroughgoing scientific training that is a rule in American medical education. By providing the opportunity for a student in his fourth year of medical study to live, work and study with a man who is in the active general practice of medicine, we find it possible to teach some of these factors that in the past have been almost entirely neglected.[3]

Dr. Wescoe further detailed the rationale for the Kansas Preceptorship Program. It allowed the student to experience the practice of medicine in the community setting; to observe first-hand the business affairs and managerial aspects of operating a private medical office; and to observe the non-medical community responsibilities of the physician, as well as professional activities such as relationships with other physicians, continuing education activities, and participation in local and regional medical societies.

These basic purposes and goals were reinforced in a retrospective evaluation which surveyed nearly 700 graduates, who had been preceptees during their undergraduate medical education at the University of Kansas Medical Center. The survey was conducted as part of an assessment of the first ten years of the program by Dr. Jesse D. Rising, then chairman of the Preceptorship Committee.[4]

In 1973, Dr. Joe R. Kimmel, who directed the Kansas Preceptorship Program, defined its objectives as follows:

> The student will participate in the private practice of a physician(s) in the state of Kansas by:
>
> 1. Selecting the type of practice in which to participate (*e.g.,* family practice, surgery, pediatrics, etc.).
> 2. Taking an active part in the office routine, with specific responsibilities for patient care, under the supervision of the preceptor by:
> a. taking patient histories,
> b. performing physical examinations,
> c. performing routine laboratory tests,
> d. making diagnoses,
> e. recommending treatment,
> f. providing treatment,
> g. counselling patients.
> 3. Making day and night calls with the preceptor.
> 4. Making hospital rounds with the preceptor.
> 5. Attending civic and social functions with the preceptor.
> 6. Providing a written evaluation of the experience on a questionnaire supplied by the director of the preceptorship program.[5]

The program, which originally sought to place preceptees exclusively with family physicians, was modified

to permit preceptee placement with internists, surgeons, obstetrician-gynecologists, pediatricians, psychiatrists, radiologists, pathologists, and a number of other subspecialists as well, in order to make types of preceptorships available which were representative of the practice of medicine in Kansas.

Preceptorship Program in Primary Care

In 1973, the Department of Human Ecology at KUMC, under the leadership of Drs. Edward Defoe and Joseph Hollowell, implemented a Special Preceptorship Program in Primary Care, co-sponsored by the departments of family practice, internal medicine, obstetrics-gynecology, pediatrics, psychiatry, and surgery. The overall goals of the experimental preceptorship focused on three areas: (1) student education; (2) community professional and university professional education; and (3) research on health issues.[6]

The special preceptorship program has continued to offer the benefits of the traditional program but has expanded upon these by assigning a small group of students to preceptors located in a given area. Once or twice in each preceptorship module, workshops are held which bring together faculty members from the Medical Center, preceptors, preceptees, and other health care providers from the designated geographic area. The workshops promote interaction between the students, preceptors, and medical center faculty, thus facilitating an appreciation of each other's needs and extending community-university understanding and cooperation.

In addition, the workshops have promoted a joint educational potential by developing goals and objectives for the special preceptorship program and discussing concerns about the preceptorship program as a whole and medical education in general. Medical Center faculty and students have learned much about the private practice of medicine, especially in the state of Kansas. Finally, the workshops have provided an opportunity for continuing professional education for both preceptors and Medical Center faculty and staff.

Goals

Since the inception of the Special Preceptorship Program in Primary Care, six geographic regions have been established. In each, preceptors have been identified and assigned students. In four of the regions, instructional objectives for the preceptorship program were developed by the physicians and students participating in the program. Although these regional groups developed objectives independent of each other, it was not surprising that the lists of objectives from the four regions were quite similar. The substantive content of these objectives are presented below as goals. Those developed in the workshops were much more detailed but are not necessary for our purposes.

The student will work as a preceptee with a primary care physician in private practice in the state of Kansas. The student will come to know the affective and intellectual framework in which a family physician operates and which conditions his diagnostic and therapeutic possibilities. The student will also come to know the community characteristics which influence the patient's health and, often, the possibilities available to the practitioner in a given area.

In more specific terms:

1. The preceptee will describe the background of the population of the area, and of the preceptor's practice in particular in terms of size, racial and ethnic patterns, occupational patterns, age groupings, local customs and social practices, basic educational opportunities, and the range of living standards.
2. The preceptee will demonstrate knowledge of the health resources of the community in terms of facilities, referral opportunities, support personnel, public health care plans, and educational programs.
3. The preceptee will develop an understanding of the social role of the preceptor in terms of family life, civic functions, and utilization of time.
4. The preceptee will observe the methods for continuing education practiced by the preceptor and discuss the adequacy of/or problems encountered in these practices with the preceptor.
5. The preceptee will develop an understanding of the business aspects and office management tasks of a private medical practice.
6. The preceptee will describe the roles of various health care professionals who are members of the preceptor's office staff.
7. The preceptee will list the cases most commonly encountered in the preceptor's practice in terms of episodic, chronic and acute problems, patients of various ages, and care setting.
8. In the context of available resources and the limitations of the preceptor's practice in the given community setting, the preceptee will participate in the management of at least ten patients by taking histories, performing physical examinations, establishing diagnoses, and implementing treatment.
9. The preceptee will participate in the management of patients with complicated or acute illness, comparing the management of such patients with those seen at the medical center.
10. In discussions with the preceptor and with other health care personnel, the preceptee will develop an understanding of the medicolegal aspects of private primary care practice in terms of legal obligations, publicly administered programs, and precautions for avoiding litigation.

The basic goals of the original Kansas medical preceptorship program, as stated by Wescoe,[3] Rising,[4] and Kimmel,[5] are preserved and reinforced in the Special Preceptorship in Primary Care.[6] The assignment of a group of students to the same geographic regions and

the periodic workshops have provided a means for accomplishing the additional goals of including preceptors substantially in the medical educational system. The potential of the program for research development and curriculum design go beyond immediate student education.

The two programs continue to co-exist, although approximately 50 per cent of the students on preceptorships in 1975-76 have been assigned under the newer regional program. Both programs will continue to view the preceptorship experience as a conduit for medical students to receive primary and specialist care training from experts in private practice in community settings across Kansas. In many respects, these remote site training centers may be regarded as mini medical schools.

A commitment to the continued support of the preceptorship experience has been expressed by the University of Kansas in its decision to merge the administration of the so-called "traditional" preceptorship program with the special, or regional, preceptorship program.

Other geographic areas in Kansas have been surveyed in an effort to identify clusters of preceptors interested in becoming involved in the Special Preceptorship Program in Primary Care. The first six regions to be established and assigned students are the southeast area, centered in Independence; the northeast area, centered in Hiawatha; and areas centered in Manhattan, Plainville, Harper, and Beloit. Other potential regions for future development are being identified elsewhere in Kansas.

Although the activity in each of the regions was initially directed by Medical Center personnel, the goal has been to make each regional group of preceptors and other health and community leaders a self-sustaining group that assumes a primary responsibility for the preceptorship program in that area. The group initiates and conducts workshops and other continuing education activities, and utilizes Medical Center faculty, staff, or facilities as they deem appropriate. The special preceptorship programs in the earlier developed regions have progressed to the point where the groups are, in fact, self-sustaining.

The future plans of the administratively merged traditional and special preceptorship programs include:

1. The establishment of additional clusters of preceptors in other regions of the state to the point where all students will be assigned to the regional programs.
2. The design and implementation of an ongoing periodic evaluation system for the preceptorship program which will solicit data from both students and preceptors on a regular basis in order to assess student attitudes concerning the preceptorship program, primary care medicine, and other issues in the public and private practice of medicine, and to determine the impact of the preceptorship program on such attitudes.
3. The encouragement of a close ongoing interchange network between community and university health professionals which will: increase community professional knowledge of new research and educational development; increase university professional knowledge of physician needs and competencies in a primary care setting; provide access to university personnel for joint research in the community; and promote the development of a broad community-university educational system.
4. The establishment of liaison and correlation with other existing and developing outreach programs growing from the Medical Center and from the greater University.

In the final analysis, the University of Kansas Medical Preceptorship Program has provided a means for bringing the University to the people of Kansas, and for the people of Kansas to make a unique contribution to the education of students, faculty, and staff. The stage has been set for significant contributions to curriculum development in medical education, and for understanding and meeting the health care needs of Kansans.

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KU and VA

The Role of VA Hospital, Kansas City, in KU's Medical Education Program

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VETERANS ADMINISTRATION, in fulfillment of its patient care mission over the years, has developed strong and varied academic affiliations and training programs. However, it has not always been so. Prior to 1946, there were no affiliations or training programs, and it was charged that veterans hospitals were isolated from the rest of the medical community and that, generally, veterans medicine was inferior. With the massive return of veterans at the conclusion of hostilities following World War II, increasing attention and emphasis was paid to the entire Veterans Administration, including the hospital system. In 1945, veterans' organizations and both houses of Congress studied the situation in some depth. Among the results of this concern was the passage of Public Law 293, in January 1946. The two key features of this law were the establishment of a separate medical organization within the VA, to be called the Department of Medicine and Surgery and headed by a physician Chief Medical Director; and the granting of authority to the VA to conduct graduate medical education-residency programs initially, and intern programs in a later amendment. It was felt that this would help to provide a solution to some of the deficiencies in veteran patients' medical care, as well as significantly increasing the facilities available for graduate education in the postwar period.

General Paul R. Hawley was appointed the first Chief Medical Director. General Hawley had described to the American Medical Association and had received its assurance of support for a contemplated program of drawing much needed regular and consultant staff from medical schools in establishing residency programs in VA hospitals. His plans became firm with the release of a policy memorandum dated January 30, 1946, entitled "Policy and Association of Veterans Hospitals with Medical Schools." This memorandum stated the basic philosophy of the association of VA hospitals with medical schools and outlined the division of responsibilities between the hospital and its cooperating medical school with regard to patient care, graduate education, training, and operation of the hospital. The implementing mechanism of the VA-Medical School affiliation was the Dean's Committee, a mechanism which has persisted with little change from its beginnings in 1946. This committee is generally composed of senior faculty members (usually departmental chairmen) of the affiliated medical school with the hospital director and chief of staff representing the VA hospital. It is usually chaired by the dean of the medical school or his equivalent. The Dean's Committee became the fundamental administrative unit for the development, control, and evaluation of educational programs at affiliated Veterans Administration hospitals. With the passage of time and the greatly increased scope of programs, it soon became apparent that the Dean's Committee got involved with many facets of hospital operations and patient care programs, since the separation from strictly educational endeavors became more and more difficult.

Over the years, the VA hospital in Kansas City, Missouri, and the University of Kansas School of Medicine, under the guidance of the Dean's Committee, have developed a close, productive, and fruitful association leading to many advantages for both institutions. The VA hospital has developed into a teaching hospital and, from the standpoint of its clinical care and educational programs, is almost a "wing" of the Medical Center in Kansas City, Kansas.

The initial impact of the Dean's Committee came from its authority to review and approve medical staff appointments and to appoint members of the medical school faculty as part-time or consultant staff to the VA hospitals. Through this mechanism, the expertise of the medical school was brought to the veteran patient's bedside, and by the employment of these physicians to staff the VA hospitals pressures rapidly developed to provide increasingly improved facilities, equipment, and supportive staff in the VA hospitals.

Most early VA programs were approved in the name of VA hospitals with limited outside training exposure,

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particularly where care of women and children was required as part of the training program. As time passed, the educational advantages accruing to residents from greater rotations to non-VA hospitals became more and more apparent, and soon programs received approval in the name of a group of hospitals. More recently, the trend has been to have the approval granted in the name of the medical school programs with rotations through the affiliated VA hospital as part of the basic residency training.

Six months after the initiation of the program, in early 1946, VA hospitals were affiliated with 56 medical schools and approximately 650 residents were enrolled. By June 1971, these figures had increased to affiliations with 82 medical schools and approximately 4,500 residents on duty in VA hospitals on any given day. These numbers have continued to increase rapidly, particularly with the establishment of new medical schools in the last two years. Clerkships for medical students began on a modest scale in 1948, and by 1971 there were approximately 12,500 medical students who have received some training in VA hospitals.

The legal authority for even further expansion of educational programs was provided by Public Law 89-785 of 1966, which included authority for the educational training of health service personnel by the VA. It also provided increasing authority for the conduct of medical research. By 1971, as a result of this new law, there were almost 28,000 trainees in practically every allied health occupation active in the VA hospitals and clinics.

Under Public Law 92-541, the Veterans Administration Medical School Assistance and Health Manpower Training Act of 1972, another new dimension was added. This act provided for grants up to seven years' duration to assist medical schools affiliated with VA hospitals in increasing class sizes and recruiting additional faculty. Because of its affiliation with the Kansas City and Wichita VA hospitals, and the plans for an entering class of 200 students in July 1975, the University of Kansas School of Medicine was an eligible applicant. The School was successful in its bid for assistance, and a grant of over one-half million dollars annually for seven years was provided.

The Kansas City Veterans Administration Hospital was opened in 1952. It is now a 482-bed hospital with 63 psychiatric, 220 surgical, 161 medical, and 38 neurologic beds. Included in these figures are: 8-bed medical intensive care, 4-bed coronary care and 8-bed surgical intensive care units, as well as a new renal dialysis center of 12 beds. The first two residents from the Department of Medicine of the University of Kansas School of Medicine came on an initial rotation in 1953. Clinical clerkships for students were established in the mid-fifties, and by the end of the decade there were ongoing residency programs in most major clinical areas. At present, there are 50 residents and 10 interns assigned to the VA hospital for rotations varying from two to twelve months, depending on the particular service. With the exception of orthopedic surgery, which is affiliated with both University of Kansas School of Medicine and a program in Kansas City, Missouri, the residency in each department or section is an integral part of that offered by the University of Kansas School of Medicine. These now include internal medicine, general surgery, neurology, neurosurgery, ophthalmology, otolaryngology, urology, pathology and psychiatry, with additional medicine specialty rotations in nephrology, cardiology, pulmonary disease, and gastrointestinal medicine. Medical students have clinical rotations as part of their required curriculum in general surgery, general medicine, and psychiatry. A variety of student electives are also offered within these three general areas. Preclinical students are also assigned for physical diagnosis classes conducted by the VA staff using the available patient material, and recently classes in anatomic pathology have been added. There are an average of 40-50 medical students assigned most of the year, and some 80 per cent of KU graduates have at least one clinical assignment at the Kansas City VA Hospital.

Over the years, with the guidance of the Dean's Committee, staff of the VA hospital was selected by much the same criteria used for selection of staff for the medical school faculty. During the early years of the association, staff were on full time basis at the VA hospital. More recently, virtually all new appointees have been part-time at the VA hospital and part-time at the medical school, so that the two institutions are rapidly moving toward a common clinical faculty. Virtually every physician member of the inpatient staff of the VA hospital holds a faculty appointment from the University School of Medicine ranging from instructor to full professor. These cooperative arrangements have permitted the VA hospital to recruit physicians in association with the medical school that would have been impossible to recruit without the assistance and association of the medical school and its academic opportunities.

Paralleling the development of an academic clinical atmosphere has been the development of a research program. In recognition of the needs of the professional staff and its importance to up-to-date medicine, the VA has provided research support—space, financing, and personnel. At Kansas City, there are a number of basic scientists engaged in research endeavors and research projects carried out by the clinical staff. As concrete demonstration of the VA support for education and research, a new 40,000 net square foot research and education wing was dedicated at the Kansas City VA Hospital in November 1973. The current annual research

budget from VA sources is $1.2 million and this is enhanced by other research support in excess of one-half million dollars.

The educational programs of the VA hospital in Kansas City are not limited to medical students and graduate medical education; they include programs in audiology, dentistry, dietetics, nursing, psychology, pharmacy, social work, speech pathology, and a number of technical training programs in affiliation with a number of different schools and colleges. In all these programs, it is the educational institution which carries the responsibility for selection of students and supervision of the training programs; the VA hospital provides facilities, clinical materials, instructional staff, and other support.

This, then, is a brief overview of the past and present status of educational programs at the Kansas City VA Hospital and their relationship to the University of Kansas School of Medicine. What of the future? With the increasing complexity of specialized medical programs, the Veterans Administration is embarking on a program of sharing of facilities with the community. Under contractual arrangements, this will permit the treatment of veterans in community hospitals and the treatment of non-veterans in VA hospitals where the VA hospital has some unique facility available. At the Kansas City hospital, a renal transplant program is in final planning stages to encompass non-veteran and veteran patients with reimbursement to the VA for the non-veteran patient. In the meantime, transplants for veterans are being done in increasing numbers.

We have completed installation of a closed circuit color educational television system, and anticipate that in the next year or two microwave relays will connect our system to similar systems installed at the VA hospitals in Leavenworth, Topeka and Wichita, linking all four hospitals with the University of Kansas Medical Center. There will subsequently be opportunity for community hospitals in the various cities to hook into this system, should they so desire.

With the establishment of the Wichita operation of the Medical School, the affiliation with the hospital there is progressing rapidly. The Wichita hospital is undergoing considerable modernization.

The major impact of the VA-School of Medicine affiliation nationally and locally has been twofold: for the medical schools, it has provided clinical material, teaching facilities, resources and additional staff partially supported by VA; for the VA, it has permitted the development of clinical staff and patient care programs, providing up-to-date comprehensive care to veterans which would have been impossible without the support of the medical schools.

3RD BIENNIAL HEALTH CARE CONFERENCE

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The third biennial health care conference, sponsored jointly by Fort Hays State College, the Ellis County Medical-Dental Association and the Northwest Kansas HS/EA, will be held April 10, 1976. Unlike the past two conferences which dealt largely with national issues, such as federal plans for reorganizing medicine, health financing proposals and external quality control measures, the current conference will be introspective. As indicated in the theme, the purpose of this conference will be to assist the busy practitioner in managing his professional and private life.

Sessions will be conducted by Rick Pierera, of the nationally recognized practice management firm of Madison, Wisconsin, PBP; J. K. Logan, who will cover the subject of practice organization; Lee Dunn, on malpractice protection; and Bernard Hazuka, who brings that perspective to the busy practitioner which allows him to cope with ever-present threats and restore equanimity to his professional life.

Announcements and registration forms will be mailed in March.

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Hand Rehabilitation Center

The Functions at KUMC

L. D. KETCHUM, M.D., F. W. MASTERS, M.D., D. W. ROBINSON, M.D.
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THE HAND REHABILITATION Center (HRC) at the University of Kansas Medical Center opened its doors on May 1, 1972, for the treatment of patients with a wide spectrum of hand problems. Although at that time the Hand Rehabilitation Center was not the first of its kind, only six are in active operation within the United States today. The center is designed both to give better care to patients with hand problems and, as a center, to assimilate research information on many varying aspects of hand surgery and rehabilitation, leading to further development in these fields. Since becoming operational, the Hand Rehabilitation Center has been accomplishing these goals.

How It Was Done

The concept of HRC was developed in the United States by Dr. Erle Peacock, in North Carolina. Prior to this, when a surgeon performed hand surgery for deformities resulting from rheumatoid arthritis, for example, he did a set of metacarpal arthroplasties. To obtain a good range of motion, such a patient would be started on a regimen of active motion three to four days postoperatively, with a dynamic splint fitted to maintain correct position of the fingers during early motion and throughout healing, which took about one month. Therefore, the patient returned to the doctor's office on the third or fourth postoperative day for a dressing change. After the dressing change, the surgeon conventionally sent the patient to an orthotist or occupational therapist for the dynamic splint. When the splint was applied, a question may arise about it—as it frequently does—and it may be necessary for the surgeon to check the splint. So, the patient returned to the office and if there was an alteration desired, a return to the orthotist or the occupational therapist was again necessitated.

The patient was then given instructions on how much exercise to perform. It is essential that the hand be checked at least twice and sometimes three times a week during the period of healing, because patients frequently do one of the following things after hand surgery:

1. They will not elevate the hand. This is an unnatural and inconvenient position for the hand and patients unconsciously let their hands drop into a dependent position, resulting in edema, which in turn retards healing.

2. Patients and physicians, being people, at times do not communicate well. It is important to see the patient early to get feed-back on the interpretation of the doctor's orders. It is not uncommon for the patient to misconstrue the instructions, which may lead to problems.

3. In this regard, even though the patient understands perfectly what the orders are, he may feel that if he is told to exercise for 10 minutes, four times a day, that 15 minutes five times a day would be better. But overuse early in the healing phase will also produce swelling. Then, there are patients with the low pain threshold, or those who merely feel that even mild exercise early after surgery may be painful, and they will abstain from using the fingers, thus predisposing the hand to stiffness.

Other problems, such as hematoma or cellulitis, can be detected early and the time-consuming complications can thereby be prevented. The busy surgeon may not have time to thoroughly evaluate new patients, perform surgery, and see a significant case load of postoperative patients requiring bulky dressing changes, suture removal, specialized splints, as well as observe these patients in their exercises, encourage, and support them. He needs help, specialized help.

How It Is Done

Specialized help is available within easy walking distance in a Hand Rehabilitation Center; at KUMC, it is about 100 feet from the office, and there are two occupational therapists who have been especially trained to change dressings, remove sutures, and prepare custom-made dynamic and resting splints for specific needs. During the period of disability they give the patients self-help aids and observe for swelling, hematoma, redness, motion, stiffness. Although in the postoperative period the surgeon sees the patient at least once a week, the patient is seen and checked more frequently in the HRC and, if a question arises or a complication is seen,

From the Department of Surgery, Section of Plastic Surgery, KUMC, Kansas City, Kansas 66103.

the surgeon is notified. Since the HRC is located between the surgical suite and the offices, it is convenient for all, and there is a minimum of wasted time. There is no going back and forth for splint checks.

In addition to a more centralized and unified facility with specialized personnel, there is the necessary equipment for preoperative evaluation of nerve and muscle function, skin temperature, and blood flow. Postoperatively, there are paraffin dips and whirlpool (both after edema is no longer a consideration), and an electrically driven dynamic splint devised by the author to prevent stiff fingers or to mobilize stiff fingers. Also, there is a modicum of equipment for patient's use to exercise the hands in a meaningful way. Rather than do hundreds of meaningless repetitive movements, it is preferred that the patient engage in some constructive activity which he or she enjoys doing, and which will put the involved finger or joint to use.

The entire concept is a realistic one. There is no getting around the fact that patients who are followed carefully, supervised and encouraged, do better if for no other reason than the fact that there are fewer complications. In a way, hand surgery is different in that the operation represents only 50 per cent of the overall rehabilitative process, whereas with appendicitis or cholycystitis the disease is cured when the appendix or gall bladder is removed. A tendon repair or joint replacement merely places the anatomical part in a position to work, but it must actually move and glide in the case of a tendon and rotate in the case of the joint, and this does not always come easily, especially after age 40.

Since its opening for patient care, HRC has evaluated and treated 452 new patients with many different problems. Such congenital problems as syndactyly, radial club hand, aplasia of the thumb, and lobster claw deformities have been seen. Many traumatic problems, such as primary and secondary tendon repairs, tendon transfers for nerve palsy, nerve repair including nerve grafts, fractures of the hand, skin coverage for avulsions or burns, including release of burn contractures, pollicization for amputation of the thumb, and replantation of amputated parts have been treated.



Figure 1



Figure 2A



Figure 2B

The treatment of patients with arthritic deformities resulting from rheumatoid arthritis, osteoarthritis, and lupus erythematosis accounts for 30 per cent of the cases. Preoperative splinting and exercises, as well as postoperative care following joint replacement or synovectomy, is the sine qua non to effective surgical treatment of these deformities.

Other categories of problems treated include: infections, such as suppurative tenosynovitis; tumors and cysts, such as ganglions; and acquired diseases, such as Dupuytren's contracture.

Summary

The new facility offers to patients in this area a more coordinated and concentrated approach to the treatment of a myriad of problems concerning the hand. In our experience, the more difficult problems receive the closer supervision they require, resulting in a decrease in the incidence of complications, a more rapid return to employment and, in several instances such as in *Figures 1* and *2,* hand function has been salvaged where previously it would have been accepted as a lost cause.

Continuing Medical Education

Survey of Physicians' Opinions

JAMES N. DeNIO, Ed.D.,* ROBERT L. NETH,† *and*
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THE DEPARTMENT of Postgraduate Medical Education (now, the Division of Continuing Education, The University of Kansas, College of Health Sciences) has always endeavored to make the wishes and needs of Kansas physicians the guide to its activities, and to this end has employed several methods of determining them. From the very inception of the department, it has leaned heavily on the Joint Advisory Committee composed of representative doctors from throughout the state. In addition to this, the field staff is continually gathering person-to-person impressions which are reported to the department. Post-course questionnaires are routinely employed to evaluate the impact of each program, and attendance (and non-attendance) data are scrutinized closely for information they may imply. Finally, the department has conducted surveys from time to time to obtain information on specific points, and to glean information not only from those who have attended its courses but also from those who use other continuing education vehicles.[1, 2]

This paper reports on a questionnaire survey which, among other things, attempts to assess the impact of certain media and modalities of continuing education, and was inspired in part by an elaborate and expensive survey carried out jointly by Dalhousie University and University of Michigan schools of medicine.[3] It was our feeling that a much simpler and less expensive method would yield essentially the same type of information with equal validity. A somewhat similar study from Iowa was also available,[4] and we took the opportunity to compare our experience with that of a neighboring state, which we assumed had continuing medical education requirements similar to those of Kansas.

Since there has been a great deal of criticism in academic and quasi-academic circles of the more traditional methods and media of continuing medical education, we wanted to find out what those who pay for courses by their fees, their loss of income, and other expenses actually find most effective. After all, it is their opinions which have meaning for our department and the K.U. Medical Center, not the opinions of educational theorists communing with each other in detached academic surroundings.

In order to keep within the range of practical simplicity, we undertook to assess the preferences for five types of continuing education activities, expecting that the older doctors would prefer the more traditional modalities, while younger ones, being more accustomed to the "media approach," would show more acceptance of newer ones. We also assumed that specialists (other than those in family practice) might also tend in this direction. Previous experience had led us to conclude

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TABLE I

TYPE ACTIVITY PREFERRED*

	Under 35	*36-45*	*46-55*	*56-65*	*Over 65*	*Family Practice*	*Other Spec.*
Symposia/lecture	87	84	87	86	73	84	84
Practical experience	31	27	29	31	33	41	23
In Residence (preceptor, clinical training, etc.)	7	21	21	10	5	17	14
Home study courses, including A/V learning resources	28	27	25	24	18	24	25
Reading journals	25	28	25	26	37	17	33

* All figures expressed in %. Respondents were asked to check the two most preferred.

TABLE II

TOPICS MOST USEFUL*

	Under 35	*36-45*	*46-55*	*56-65*	*Over 65*	*Family Practice*	*Other Spec.*
Lecture on research findings	15	19	18	22	24	16	22
Seminar discussions	51	54	56	47	32	46	52
Informal conversation with colleagues	31	24	29	22	13	23	26
Lectures on clinical subjects	87	75	77	72	62	75	74
Demonstrations of new equipment	20	10	18	20	13	16	20
Information about new drugs	33	31	36	34	39	43	28
Case presentations	39	38	43	42	44	46	38
Other	0	2	1	2	1	1	2
Number of respondents	61	194	204	125	82	263	414

* All figures expressed in % except totals of respondents. Respondents were asked to check the three most useful.

that practical, clinical subjects were more useful than those without clear clinical significance. Since the increasing pressure for continuing education credits had made little real difference in enrollment patterns, we had concluded that the need for such credits, while significant, would not rank as high, as a reason for course attendance, as would the desire to improve one's competence. Conversations with colleagues in other states and abroad constantly refer to the expense of attending courses and loss of income as the major (indeed, the chief) deterrent to attendance. We have believed that to be an excuse rather than a reason, and we wished to document that.

Procedures

The survey questionnaire used in this study was designed to: (1) be as comprehensive as possible; (2) provide for flexibility in responding by individuals yet facilitate the extraction and collation of the responses; and (3) require a minimal effort by the respondents to encourage the completion and return of the instrument. Part I of the questionnaire contained items concerned with various aspects of continuing education programs and the factors influencing attendance of continuing education courses. Part II elicited personal information from the respondents to facilitate comparison of the feelings and needs characterizing various groups of physicians. For most items respondents had only to check from one to three statements, and were given the opportunity to write in a statement of their own if none of the statements provided adequately expressed their feelings. Additional space was provided on the reverse side of the questionnaire for more extensive comments. The questionnaire was two pages in length and printed on both sides of one sheet of paper.

The population surveyed in this study included all the practicing physicians (MDs and DOs) in Kansas, who were on the mailing list of the Department of Post-

TABLE III

MAJOR OBJECTIVES FOR ATTENDING CONTINUING EDUCATION COURSES*

	Under 35	*36-45*	*46-55*	*56-65*	*Over 65*	*Family Practice*	*Other Spec.*
Continuing education credits	46	35	37	34	28	56	23
Instruction on new concepts and techniques	80	87	87	83	79	82	85
Consultation with course faculty	21	25	25	22	23	19	27
Exchange information with colleagues	28	30	29	24	26	19	34
Learn where I am out of date	61	56	64	62	61	62	60
Learn where I am up to date	11	9	16	11	18	14	12
Get away from practice	34	33	33	34	24	32	32
Other	5	3	1	1	0	2	2

* All figures expressed in %. Respondents were asked to check the three most important.

TABLE IV

CHARACTERISTICS OF COURSES AT KUMC*

Too theoretical	*5:16:44: 6:2*	Too shallow
Above audience's head	*2: 9:46:10:4*	Not high enough level
Too long	*2: 5:58: 5:1*	Too short
Good teachers	*24:23:23: 7:1*	Poor teachers
Good AV aids	*16:20:28: 8:2*	Poor AV aids
Good facilities	*26:23:22: 5:1*	Poor facilities
Too expensive	*3: 7:57: 4:1*	Too cheap

* All figures expressed in %.

graduate Medical Education, with the exception of the KUMC faculty. The initial mailing on July 22, 1974, numbered 2,272, of which 677 (30%) questionnaires returned by August 15, 1974 were included in the analysis. Additional questionnaires were received after the cut-off date, but on inspection it was felt that their inclusion would not significantly change the results as reported herein.

The responses of the completed questionnaires were coded and the data keypunched on cards to facilitate computer analysis. A simple tabulation program was used to obtain a tally of responses for each statement and the percentage of respondents within the group selecting that statement.

Because the respondents were asked to select more than one statement in most cases, the total percentage will be more than 100 per cent for a given group of respondents. Written comments contained on the questionnaire were extracted and tallied by hand.

TABLE VI

AGE OF RESPONDENT*

9	35 and under
29	36-45
30	46-55
18	56-65
12	over 65 years

* All figures expressed in %.

TABLE VII

SIZE OF COMMUNITY YOU PRACTICE IN*

21	under 5,000
30	10-30,000
11	30-100,000
34	100,000-over

* All figures expressed in %.

TABLE VIII

THE NUMBER OF BEDS IN THE HOSPITAL OF YOUR MAJOR AFFILIATION*

14	50 or under
31	51-150
24	151-300
23	301-over

* All figures expressed in %.

TABLE V

MAJOR IMPEDIMENTS TO ATTENDANCE OF CONTINUING EDUCATION PROGRAMS*

	Under 35	*36-45*	*46-55*	*56-65*	*Over 65*	*Family Practice*	*Other Spec.*
Schedule/patient load	48	57	54	50	46	63	46
Conflicts between CE opportunities and schedule	46	48	51	58	49	54	48
Previous experience with CE was disappointing	10	19	15	14	7	18	12
Little available in geographic area	16	20	16	12	13	17	15
Loss of income	8	3	9	3	2	7	5
Costs of attending CE programs	15	6	6	6	2	5	8
Subject matter can be obtained more easily in other ways	21	20	23	17	11	14	22
Difficult to get someone to cover practice	15	20	21	25	30	26	20
Infringement on family time	21	18	16	13	5	20	12
Other	10	15	10	5	4	7	12
Number of respondents	61	194	204	125	82	263	414

* All figures expressed in % except totals of respondents. Respondents were asked to check the three most important.

TABLE IX

RESPONDENTS BY SPECIALTY*

Age	*Family Practice*	*Other Specialties*
35 and under	8	10
36-45	23	32
46-55	33	28
56-65	20	17
Over 65	16	10

* All figures expressed in %.

TABLE XI

RESPONDENT'S SPECIALTY*

3	Anesthesiology	*3*	Ophthalmology
1	Cardiology	*2*	Otolaryngology
39	Family Practice	*5*	Pediatrics
10	Internal Medicine	*6*	Psychiatry
4	Obstetrics/Gyn.	*12*	Surgery
16	Other		

* All figures expressed in %.

Results

During the past ten years (with the last five lending greater emphasis), we have gained the impression in consultation with colleagues that the lecture method of teaching had lost popularity; *Table I* indicates that the lecture method is still by far the preferred method of gaining continuing medical education regardless of age group or specialty.

The results shown in *Table II* reconfirm our long held belief that physicians in private practice want to learn about those things that will benefit their patients directly and in the shortest time, and given the opportunity will seek that information through open discussion.

Table III data reinforces the assumption that physicians want to keep up to date, and also that they recognize the reality (if not the desirability) of registering formal continuing medical education credits.

Given a faculty that has had intensive work in continuing medical education over a relatively long period of time, and probably has as good an understanding of the basic concepts, objectives and methods in this field as any similar group, the data presented in *Table IV* are not surprising. In this item respondents were asked to mark the most appropriate box.

With increases in government intervention and demands on the health care delivery system, and the percentage increase in health insurance policyholders, it is not surprising that time (or lack of it) deters participation in continuing medical education activities, as shown in *Table V*. Loss of income or costs of attending are minor considerations.

Tables VI through *XVI* present demographic data about the respondents and are self-explanatory.

Conclusions

This study, done in simple fashion and at extremely low cost both in money and man-hours, sampled 677 physicians' responses to 13 questions, as compared with the expensive Dalhousie survey of 669 physicians and 41 questions. Virtually the same information was obtained. The simple analytic techniques employed in the present study yielded results comparable with the "Discriminant Analysis" and "Cluster Analysis" in the Dalhousie protocol. The time employed in Kansas, from beginning to end, was a matter of weeks compared with an unknown time for the one at Dalhousie, which was incomplete when reported (at which time it was a year old and is still unpublished so far as we know). This

TABLE X

COMMUNITY PRACTICE POPULATION*

	Under 35	*36-45*	*46-55*	*56-65*	*Over 65*	*Family Practice*	*Other Spec.*
Under 5,000	13	20	21	22	34	44	7
10,000-30,000	31	28	31	35	28	32	29
30,000-100,000	13	10	12	10	11	7	14
100,000-over	42	40	34	29	22	15	45
Number of respondents	61	194	204	125	82	263	414

* All figures expressed in % except totals of respondents.

TABLE XII

BOARD CERTIFIED*

38	Yes
41	No
21	No return

* All figures expressed in %.

TABLE XIII

TYPE OF PRACTICE*

41	Solo
24	Partnership
9.	Loose Assoc.
20	Tight Assoc.

* All figures expressed in %.

is not to belittle their study, because we had the advantage of the problems reported by the Canadians, and were therefore able to omit questions relating to matters in which the results in their study appeared to be patently untrustworthy.

In all important matters it appeared that our results were consistent with those in the Iowa study, and this seems to validate both surveys.

As indicated in the tables, traditional educational techniques and media remain the mainstay of continuing

TABLE XIV

WHO CARES FOR YOUR PATIENTS WHEN YOU ARE AWAY*

27	Partner(s)
21	Associate(s)
27	Colleague(s)
—	Physician Assistant
1	Office Nurse
1	Nurse Clinical Practitioner
—	Other
10	Associate and Office RN
6	Other Combination
2	Open

* All figures expressed in %.

education, and this holds true even among younger doctors who have had more opportunities to use newer media; nor does specialty seem to make a significant difference. Clinical significance is the important factor in course content, and the desire to keep up to date is the chief element of motivation—at least among Kansas physicians.

References

1. Rising, *et al.:* Postgraduate medical education in Kansas, *JAMA,* 166:1602, 1958.
2. Rising, *et al.:* General practice in Kansas, *J. Kans. Med. Soc.,* 60:60-65, 1959.
3. Annual Postgraduate Retreat, Ohio State University, Columbus, Sept. 1972.
4. Caplan and Yarcheski: Survey of continuing medical education in Iowa, *J. Iowa Med. Soc.,* 64:159, 1974.

Mark Your Calendar Today!

117th KMS ANNUAL SESSION

May 2-5, 1976 **Hilton Inn** **Salina**

Please note: **House of Delegates First Session will convene May 2, Sunday, at 9:00 A.M.**

Emergency Medical Service

EMS—What Is It?

(Editor's Note: Emergency medical care was probably the first medical care. The current phenomenon of Emergency Medical Service is the latter day version of this fundamental medical effort and has resulted from a number of factors: the revolution in transportation and communication of the past century; the increasing mobility of the populace; increasing expertise and sophistication in the care of emergencies at the site, in transit, and in the emergency room of the hospital; the increasing competition for the physician's time between the scheduled, definitive practice and the unpredictable but compelling emergent case; and, not least, the tendency of the people to congregate in increasing masses as well as their penchant for abusing themselves and each other.

Norman E. McSwain, Jr., M.D., Director, Emergency Medical Training, KUMC, has prepared a series of articles, which will be presented at intervals in these pages, relating to the current program of emergency medical service in the state. These articles will not only provide information relating to the trends and developments in this field but serve as a guide to those physicians, hospitals, and communities where such service is becoming an increasing need.)

EMS—an ambulance? No! Trained ambulance attendant? No! A well-staffed and equipped emergency room? No!

It is all of these and more. The Emergency Medical Services System was signed into law by President Nixon in 1973, and is presently being implemented by the Department of Health, Education and Welfare, with Dr. David Boyd as the Medical Director of the EMS section. Federal monies are being provided to enable areas in the United States to set up total emergency medical services systems. This means a patient-oriented, patient-care directed system to get any patient with any emergency to the appropriate facility for the patient's ultimate care. This does not necessarily mean bypassing local hospitals, but it does not necessarily mean delivering the patient to the local hospitals. It means developing a system so that a patient will be delivered in the most expedient manner with the appropriate intermediate care, making sure that he receives the best available medical care. It must be understood that this does not mean taking the patient away from the physicians who normally care for him. Rather, the system should be developed along well accepted and ongoing patient flow patterns to insure that the 80 per cent of patients

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The President's Message

It's Late! It's Late! . . .



Though most of the shouting and the tumult will be over by the time you read this, our legislative initiative for the solution of the professional liability problem is at present writing still making its way through the wonderland of committee hearings, floor debate, conference committees, and cloakroom maneuvering which comprises our law making process. I believe we have reason to be optimistic. No major program of such complexity has moved so smoothly through the Kansas Legislature in recent years.

Nevertheless, your President feels a bit like Alice's March Hare, not only because of the travail through which we have just passed, but also the demands on time, talent, and energy which have forced us to pay less attention to a number of very significant issues than we had originally planned. Doubtless my able successor will give high priority to most of these matters.

Important challenges persist if we are going to use the legislative foundation built this year to sustain an equable professional liability climate in Kansas. Stimulation of the legal profession toward a recognition that their contribution to a solution of the problem is yet insufficient remains a necessity. Governor Bennett's court reform program may be a great help to us here. A meaningful arbitration process must be developed. We urgently need to regain medical control of the Kansas State Board of Healing Arts. A diminishing minority of the Board are physicians. The other licensed disciplines are grossly overrepresented in terms of their constituencies.

Recruitment of family practitioners for small and medium-sized Kansas communities is a first priority. Expansion of opportunities for training in family practice within Kansas must be explored as the most effective method toward this end. Closer liaison between the Kansas University Medical School, its faculty leadership, the Kansas Medical Society, and special interest groups within the medical profession is basic to this effort.

Improved mechanisms for surveillance, anticipation of, and response to the activities of health planning bodies at the state and local level are sorely needed. Despite the efforts of professional bureaucrats to wash the medical profession out of the health planning field, we doctors have an undeniable obligation to keep the interests of patients and common sense at the forefront in the planning for distribution of health manpower and facilities in Kansas. We cannot abdicate that responsibility to individuals or groups whose understanding of medical care is limited to statistics and organization charts. The strength and support for our statewide PSRO control by conscientious physicians and directed toward maintaining the quality of service available to Kansas citizens is essential.

The rapidly enlarging scope of so-called "emergency medical services" programs threatens to create a second, disparate system of non-physician acute medical care in Kansas. Without strong, continuing physician guidance, EMS could become a Sinbad's burden for both doctors and hospitals—and a nightmare for patients!

At the time we severed our connection with a relative value schedule, the KMS adopted the third edition of the *AMA CPT* as the official terminology for all segments of the medical profession in Kansas. The continued use by third parties of an obsolete terminology

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Editorial COMMENT

The Way It Was—They Say

As we noted a couple of months ago, the commemorative spirit is strong this year. Since it has, in line of duty, directed us to those repositories of Kansas medical history, the *Transactions* of the Kansas Medical Society, we are reminded that the recorded words and actions of our forebears are earlier statements in the frontier setting of the same problems which confront us. If the current manifestations of these problems seem greater to us, one gets the sense, in reading these early accounts, that our predecessors were just as concerned, felt just as threatened by various encroachments on their professional lives, and struggled just as hard to fend off the changes they considered destructive as do we.

Herewith, then, some items which may stir some sympathetic response a hundred years and more later:

The fledgling medical society, after its somewhat premature birth, didn't really get on its documented course until 1867 at which time, in Leavenworth, one M. Bailey, M.D., of Topeka, initiated his "Report of the Committee on Surgery" with the following comments:

After some consideration of the various subjects of interest to the practical surgeon, your committee are of the opinion that the medico-legal subject of malpractice deserves, as much as any other, the attention of those of the medical profession who practice surgery. Nevertheless, they ought, perhaps, to offer an apology for devoting their entire report to the subject of malpractice. But they trust that the increasing importance to the surgeon, its intimate connection with his every-day practice, the responsible and precarious position in which he is placed, and the facility with which the earnings of a lifetime may be swept from him for the most trivial and unavoidable cause, are sufficient reasons for the feeble efforts of your committee to try and awaken at least an interest in this matter. So liable is he who practices surgery to be called upon to defend his practice and his property against suits for alleged malpractice, that many of the most worthy members of the profession give up entirely the practice of surgery and devote their whole attention to other branches of the profession, not being willing to endanger their reputation and property, if fortunate enough to have any, by following a business, which, without any such risk, is one of poor compensation.

M. Bailey was no mean prophet and the Committee, though it didn't solve the problem, lives on in spirit.

The *Transactions* are, in themselves, testimony to the intent of the profession to pursue continuing education, but we hope that Ralph Nader and like critics will not become aware of our ancestors' reluctance to demonstrate their scholarship. Consider the following business, still in 1867:

"Dr. Sinks offered the following resolution:

" '*Resolved,* That a medal, of the value of five dollars, be offered as a prize for the best essay on the endemic diseases of Kansas, the contestants to be confined to members of this Society; and that a committee be appointed to examine the essays, and adjudge the award, according to the rules customary in such cases; said committee to report at the next meeting.' "

Breathlessly we envision the surge to put in writing those thoughts that will be translated by our ancestral colleagues into health and life for those intrepid early Kansans, but—

"*Transactions,* 1868—

" 'The Committee on Prize Essays would most respectfully report, that, owing to the number of essays submitted being so few, and some that were promised and expected, not having been received within the time prescribed, the committee have decided to recommend to the Society, to continue the committee, and extend the time one year, and that the value of the medal be increased to ten dollars.' "

Then comes the annual meeting of 1869, and we look forward (all right, backward) to the presentation which must surely result from a doubling of the prize. But—

"Report from the committee on prize essays and pathological specimens called for; none present.

"On motion of Dr. Newman the committee was continued on both subjects, and the prize for the best essay was increased to fifteen dollars."

Now, surely, those medical pearls will be put to paper, but 1870 passes without another cost-of-living raise or even any comment, and 1871 records the resigned if not

despairing note: "On motion of Dr. Logan, the two prize offers made at the last meeting, were continued another year."

And that seems to be it—no further offers and—worse—no takers are recorded, the whole concept rejected, we must hope, by the members' determination that their professional virtue not be sold for a price.

On the other hand, it may be that the matter was quietly dropped because of the state of the treasury and the question of whether the obligation could be met even if some frontier Hippocrates should qualify. The report of the treasurer in 1869 tells us, "I am under the necessity of stating that on or about the 1st of March last, I lost my pocket record which contained a list of those delinquent in the payment of their annual assessment previous to April 15th, 1868, and am therefore unable to make a complete report."

The Society was apparently not disenchanted with the gentleman, however, for he was still functioning at the time of the 1870 meeting, at which time he noted cash on hand of $32 and reported:

"Drs. M. Bailey, D. W. Stormont, and J. Parsons, were the only members who paid their dues for the year ending May 11, 1869. There have been no dues paid for the year ending May 11, 1870.

"The above statement is respectfully submitted to the society.

"J. L. Prentice, *Treasurer.*"

The depth of this financial delinquency can be gauged by the notation at the meeting of 1877: "Dr. Furley moved to amend art. 4th, sec. 1, of By-Laws, to read, 'Every member shall pay $1.00 dues annually.' Carried."

Lest we feel that the blight of sexism is another manifestation of the social unhealth peculiar to our day, we should note that during a lull in the proceedings of 1871 (occasioned by the unexpectedly rapid disposal of other business)—

"Dr. Lanphier said as there was nothing before the society, he would give them something to talk about, and thereupon offered the following resolution:

" '*Resolved,* That no discrimination, simply on account of sex, shall be made in our professional relations or associations with physicians.'

"After a pleasant discussion, engaged in by Drs. Lanphier, Holderman, Linley, Cochrane and Logan, and any number of amendments, the whole matter was laid on the table."

And there, apparently, it lay until the 1872 meeting at which time the chauvinist Board of Censors, in 1872, passed five males into membership without a quiver but, "In the case of Doctoress F. R. Porter, the Censors submitted the following resolution, viz: '*Resolved,* that the Board of Censors reported favorably on the credentials of Dr. Francena R. Porter, if the standing of the Woman's Medical College, of Philadelphia, of which she is a graduate, be recognized by the regular profession.' . . . After a lengthy discussion, the vote was taken and stood: yeas, 20; nays, 5. . . . Doctoress Porter was then introduced and signed the constitution." Which, as far as the *Transactions* are concerned, was her last act, for she is heard from no more and presumably retired to her feminist office to sulk—as is the right of anyone identified as "doctoress."

In this day when, on the one hand, the spectre of Madison Avenue is rising on the medical horizon and, on the other, the profession is accused of inadequate policing of its ranks, it is heartening to note that in those earlier, no-nonsense times (1873), the Kansas Medical Society took double-barreled action:

"The Censors having investigated the charges preferred at the last annual meeting of this society, and examined the evidence against Drs. Eli Lewis and W. W. Rodgers, of Topeka, in the matter of their affiliating with John Homer, an advertising quack, find truth of the said charges sustained, and we therefore recommend their expulsion from the society, and that their names be stricken from the list of members."

The American Medical Association was gaining strength in its battle to drive out the charlatans among whom it included "contract physicians," those blackguards "bidding for practice at less rates than those established by a majority of regular graduates in the same locality . . . ," and in 1871, the Kansas Medical Society approved the AMA proceedings including the resolution that ". . . any person who contracts to attend families by the year at a stipulated price, or who charges less than the established price . . . is in clear violation of the above resolution and should therefore be classed as irregular."

And so it goes. Today, impressed by the number and force of problems confronting us, we are frequently admonished to learn from the experience of our predecessors. We must look for guidance in their words and with the annual meeting in the offing, we submit the following excerpt from the welcoming speech by Dr. S. E. Sheldon to those attending the 1875 meeting in Topeka:

"I trust that this gathering together from all parts of the State, from the best of its medical talent, will be both pleasant and profitable, and that each member of the society will return to his field of labor with a re-

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Nominating Committee

The Nominating Committee of the Kansas Medical Society met on Sunday, February 8, 1976, and submits to the House of Delegates the following list of nominations for the elective offices of the Society. Wherever more than one nomination appears, these are presented in alphabetical order. A very brief biography accompanies each name.

President-Elect

John D. Huff, M.D., Kansas City. Born in 1921. Graduated from the University of Kansas School of Medicine in 1952. Is past president of the Kansas Academy of Family Practice. Has served as Councilor.

First Vice-President

Warren E. Meyer, M.D., Wichita. Born in 1927. Graduated from the Northwestern University School of Medicine in 1951. Has served as Councilor.

Second Vice-President

James J. Basham, M.D., Fort Scott. Born in 1914. Graduated from the University of Kansas School of Medicine in 1937. Has been active on numerous KMS committees.

Vernon W. Filley, M.D., Pratt. Born in 1913. Graduated from the Nebraska University School of Medicine in 1943. Is currently serving as Councilor.

Donald D. Goering, M.D., Salina. Born in 1931. Graduated from the University of Kansas School of Medicine in 1956. Has served on a variety of KMS committees.

William M. Kane, Jr., M.D., Hays. Born in 1927. Graduated from George Washington University School of Medicine, Washington, in 1954. Has been active on a variety of KMS committees.

Constitutional Secretary

Phillip A. Godwin, M.D., Lawrence. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. Is currently serving as Constitutional Secretary.

Treasurer

Edward G. Campbell, M.D., Emporia. Born in 1931. Graduated from the University of Kansas School of Medicine in 1961. Is currently serving as Treasurer.

AMA Delegate

M. Robert Knapp, M.D., Wichita. Born in 1923. Graduated from New York College of Medicine in 1947. Has served as Councilor. Is currently serving as Vice-Speaker.

Alex Scott, M.D., Junction City. Born in 1923. Graduated from the University of Wisconsin School of Medicine in 1948. Has served as Councilor. Is currently serving as AMA Alternate Delegate.

Thomas F. Taylor, M.D., Salina. Born in 1926. Graduated from the University of Kansas School of Medicine in 1953. Has served as Speaker of the House, and as President.

AMA Alternate Delegate

Richard L. Brownrigg, M.D., Dodge City. Born in 1935. Graduated from the University of Kansas School of Medicine in 1961. Is currently serving as Chairman of the Commission for Medical Practices and Specialty Societies.

Kenneth L. Graham, M.D., Leavenworth. Born in 1921. Graduated from the Ohio State University School of Medicine in 1945. Has served as President. Is currently serving as Chairman of KMS-KUMC Liaison Committee.

Kermit G. Wedel, M.D., Minneapolis. Born in 1932. Graduated from the University of Kansas School of Medicine in 1960. Is currently serving as Councilor; is Chairman of the Commission for Health Services, and Chairman of the Committee on Services for Members.

SRS MEDICAL DIRECTOR

Nancy J. Wing, M.D. has joined the staff of Medical Services, Department of Social and Rehabilitation Services. She will serve as Medical Director to assist in the administration of Title XIX with the primary providers.

For the past 11 years, Dr. Wing has been a primary care physician at the V.A. Hospital, Topeka. Prior to that time, she was a member of the staff at Forbes Air Force Base, Topeka. Her special interests have been in internal medicine and neurology.

Dr. Wing was born and grew up in Maine. She was graduated from the Medical College of Virginia, Richmond, in 1956.

Any questions you may have concerning the Title XIX program are welcomed by Dr. Wing. Please contact her at:

Medical Services, SRS
6th Floor, State Office Building
Topeka, KS 66612
Phone: 913-296-3981

To: All Members of the Kansas Medical Society

This is a reminder that the annual meeting of the Kansas Medical Society will be held on May 2-5, 1976, in Salina. All members are eligible, and indeed invited, to submit resolutions for consideration at that time. The resolutions must be in the KMS Executive Office no later than March 20, 1976.

This cut-off date is necessary in order to permit time to print the resolutions in THE JOURNAL, so that they can be studied by the component medical societies and delegates prior to arriving at the meeting. If you have any questions concerning your resolutions, please contact the Kansas Medical Society office or me.

This is an extremely important year and we hope that all societies will have a full complement of delegates. Many important decisions will be made concerning malpractice, insurance, postgraduate education, and others.

Please make special note of the following items as well:

First House of Delegates Session	**9:00 AM Sunday, May 2**
Reference Committee A	**2:00 PM Sunday, May 2**
Reference Committee B	**9:00 AM Monday, May 3**
Second House of Delegates Session	**8:30 AM Wednesday, May 5**

CLAIR C. CONARD, M.D.
Speaker, House of Delegates

Editorial

(Continued from page 117)

newed interest in the great work he is engaged upon. . . . May harmony prevail in all our deliberations, and no strife or contention exist among us, except that noble contention, or rather emulation, of who best can work and who can best agree.

"I earnestly hope that very little of the time of this society will be occupied by legislation, for I believe that it is the experience of similar societies that a few plain, wholesome laws, whom none can misinterpret, promptly enforced and obeyed, are better than volumes of doubtful construction."

Play it again, Jack.—*D.E.G.*

Emergency Medical Service

(Continued from page 114)

who require primary care are given that primary care. The 15 per cent who require intermediary care should be appropriately given it, with only 5 per cent remaining to be referred to the tertiary hospital fully equipped to care for any type of emergency situation.

Because this program is directed by a physician—who believes in patient care—this program is administered somewhat differently from other federal programs. The federal money is seed money, for the people of the United States to develop their own EMS system. HEW will then be out of the EMS business. The region can obtain grant money for only four years. The first year is 100 per cent funded; the second two years are 50 per cent funded; and the last year, 25 per cent. This means that within a four-year period, regions must develop money sources of their own to continue the system. Because this money has very few strings attached, it is possible for the physicians of Kansas to obtain some federal money, and to develop an excellent health care system. Opportunities like this will happen to us once in a lifetime. Let's take advantage of it!

Finally, there are three things which can happen to Emergency Medical Services in Kansas: (1) Nothing can happen. We will lose all this money, other states will grab it and leave Kansas trailing behind the rest of the states instead of leading them; (2) The program can be set up by bureaucrats with little or no medical knowledge, and be set up in such a way that it is neither beneficial for the medical community nor the patients; (3) It can be set up with medical direction, so that our patients can have the best possible care.

Which road will Kansas take? It is up to us as physicians to make this decision. It cannot be done without involvement. Communicate with your Regional Director now, while the system is being set up. Do not complain later that it was not set up as you like, and then try to make changes. Make sure it is done right the first time.—*N.E.McS.*

PEDIATRIC JOURNALISM CONTEST

The American Academy of Pediatrics has just initiated its first journalism contest for articles written on the subject of pediatrics from July 1, 1975 through June 30, 1976. An award of $1,000 will be made for the best newspaper article, and an award of $1,000 will be given for the best magazine article. Awards will be presented to the winners at the annual AAP session in October 1976, in Chicago. All travel expenses will be provided for the winners. Deadline for submission of entries is August 31, 1976.

The awards program was established to recognize journalism that contributes to a greater public understanding of child health, disease and treatment, pediatric research, and the role of the pediatrician as the primary child health care specialist.

For further details or to submit entries write to the American Academy of Pediatrics, Department of Communications, 1801 Hinman Ave., Evanston, IL 60204.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

KMS MEETINGS 1976

March 21 (Sunday)	*Wichita*	Commissions	10:00 a.m.
	Wichita	Executive Committee	1:30 p.m.
April 11 (Sunday)	*Great Bend*	Executive Committee	10:30 a.m.
	Great Bend	Council	1:30 p.m.
May 2-5	*Salina*	117th Annual Session	

PSRO and Public Law 94-182

I recently attended a two-day PSRO Program Contractor's Conference at the Federal Office Building in Kansas City. Among the many speakers was Michael J. Goran, M.D., the Director of the Bureau of Quality Assurance (BQA).

Dr. Goran spoke of the amendments to P.L. 94-182 which were passed by Congress on December 31, 1975, and were recently signed by President Ford.

Those amendments which affect the PSRO program in Kansas are as follows:

1. The polling process has been extended from January 1, 1976, to January 1, 1978. This provision enables BQA to conduct a poll in an area, and a majority of the physicians polled must agree that the planning PSRO (in our case, the KFMC) is representative of the physicians in the area, in order for the organization to receive a conditional PSRO contract.

2. The deadline for BQA working with a physician-only organization to conduct PSRO was extended from January 1, 1976, to January 1, 1978. However, a provision is made in the amendments to allow BQA to work with a non-physician organization to conduct PSRO if: (a) a physician organization has been defeated in the polling process (this happened recently in San Mateo, California); or (b) an organization representing the largest number of physicians in an area is on record as being opposed to PSRO.

3. The financing of all PSRO actual review procedures, whether in a delegated or non-delegated hospital, will be paid for by those hospitals as a provision of service through the Medicare reimbursement mechanism. This means that the large portion of a PSRO's reimbursement will come from the hospitals themselves, and the hospitals will then be reimbursed for those review expenses by Medicare. There was talk at this meeting that in the future a PSRO may be reimbursed directly by the Medicare Fiscal Intermediary (Blue Cross-Blue Shield in Kansas), but it will be some time, if ever, before this takes place.

The growth of the PSRO programs has been slow to this point, but the BQA officials at the meeting predicted that all present planning PSROs will be converted to conditional PSRO status by October 1976.

We were informed that the KFMC may be converted to conditional PSRO status sometime this summer. This will, of course, depend on the acceptability of the plan we submitted to the Bureau of Quality Assurance, and the commitment of the physicians of Kansas to the program.—*J.E.A.*

CALL FOR ABSTRACTS

The Scientific Program Committee for the 42nd annual scientific assembly of the American College of Chest Physicians has announced a call for abstracts. Original investigations in the realms of circulation, respiration, thoracic-cardiovascular surgery, and other related systems are invited for presentation at the 1976 annual meeting to be held in Atlanta, October 24-28, 1976. Deadline for submission of abstracts is May 15, 1976.

The material submitted must be original and not be published or presented elsewhere prior to October 28. Abstracts should be approximately 150 words in length, typed double spaced. An original and four carbon copies are needed. Please include the title of the paper, full first and last names (not initials only) of authors and institution where work was performed.

To mail the abstract or to obtain further information, please write to Sylvan L. Weinberg, M.D., Chairman, Scientific Program Committee, American College of Chest Physicians, 911 Busse Highway, Park Ridge, IL 60068.

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Open Letter to the Doctors of Kansas

Dear Doctor,

This has been a challenging year for the Auxiliary. It has been especially educational for us because of the professional liability activities.

Although we regret that the professional liability problem developed, we have had a beneficial education in legislation through being informed about and included in working out a solution to the problem. We have learned to appreciate the problems you are facing in formulating a professional liability proposal that you can live with. The step-by-step process you have followed while working on the professional liability program has helped us to appreciate the necessity of "give and take" in order to realize success in getting the desired proposals approved.

We have also learned that the progress made in this effort is the result of careful research and long, diligent hours of work by the KMS staff and the group formulating the proposals. It has taught us that "in-and-out" work on this issue is not adequate, but that a steady effort is needed to see the whole picture and understand how it develops. You have shown us the importance of an open mind to accept some modifications in order to progress. Thank you for this fine performance and the lessons that you have taught us!

The increased communication between the Kansas Medical Society and its Auxiliary is a big step in the right direction, for we can help you only when we are informed of your needs. We do feel honored to have been called upon to help you this year, and please do so in the future.

We want to thank you for all your help and support, which came in so many ways during the year. We appreciated Dr. Travis coming to our fall conference dinner meeting and speaking to us about your concerns and activities. The Advisory Committee, comprised of seven physicians, has also been most helpful to us. May communication and cooperation between the Kansas Medical Society and the Auxiliary continue and grow.

I will be reporting to you on more of the activities of the Auxiliary at the annual meeting. Please remind your wife that we are extending to her a special invitation to come to the annual meeting in Salina. We have a varied and worth-while program planned; we have fun, information, and necessary business planned, and we need *your* wife!

I would like to say that it has been an honor and a pleasure to work with you this year, and I extend my very best wishes for a successful future to a very fine group of dedicated doctors.

Sincerely,
Anita Yoder
President,
Woman's Auxiliary to the
Kansas Medical Society

Journal on Microfilm

Microfilmed copies of current as well as all back issues of the JOURNAL are available through University Microfilm Services, a subsidiary of Xerox Corporation. The 35 mm film fits all standard viewers and provides the JOURNAL in miniature at a savings on binding and storage costs. Write for information or send orders direct to University Microfilm Services, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

The Kansas Medical Society—1975-1976

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Seward	Norvan D. Harris, Liberal	Jack D. Reese, Liberal
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Smith	Robert G. Sheppard, Smith Center	Hugh J. Woods, Smith Center
South Central Tri-County	Shelby D. Rose, Wellington	Walter A. Forred, Harper
Southeast Kansas	B. E. Howerter, Jr., Coffeyville	Donald C. White, Coffeyville
Southwest Kansas	David F. Beggs, Garden City	Alfred H. Thiemann, Sublette
Stafford	Robert L. Ward, Stafford	C. Everett Brown, Stafford
Wyandotte	Herman H. Jones, Kansas City	Barbara P. Lukert, Kansas City

HUMANITIES SEMINARS FOR MEDICAL PRACTITIONERS

The National Endowment for the Humanities will again support a program of humanities seminars for physicians and other members of the health professions in 1976. The seminars will bring medical practitioners together with distinguished humanists from the fields of history, religion, sociology, and philosophy for a month of full-time study devoted to such issues as ethical conflicts, the rights of patients and practitioners, the purpose and limits of the medical professions, and their relations to the community.

Up to 15 participants will attend each seminar tuition free and will receive a $1,200 stipend to cover expenses, plus reimbursement for travel up to a $300 maximum. Participants may be accompanied by members of their families, but the stipend will not be increased.

John C. Burnham, Professor of History and Lecturer in Psychiatry at the Ohio State University, will direct a seminar on his University's campus August 9-September 3. The aim of this seminar will be to identify the particular historical forces which have shaped the medical profession and determined the direction of its development. It will attempt to sharpen the participants' understanding of their profession by studying it in the context of Western culture and how it has been involved in the forces of social change.

H. Tristram Engelhardt, Jr., a philosopher and physician who is Associate Professor of the Philosophy of Medicine in the Institute for the Medical Humanities of the University of Texas Medical Branch at Galveston, will direct a seminar at his University September 13-October 8. The seminar will examine the general issue of patient's rights and the particular issue of the right to health care through a consideration of the basic philosophical and ethical issues that bear on the status of the individual, the nature of justice, and the relationship between the individual and society.

Renée C. Fox, Professor of Sociology in the Departments of Sociology, Psychiatry and Medicine at the University of Pennsylvania in Philadelphia, will conduct a seminar on her University's campus June 1-30. The seminar will examine from a cross-cultural perspective the ways in which social and cultural forces influence certain present-day medical phenomena and problems in American society. Conceptions of health and illness, the process of professional development, the hospital as a social system, modern medical research, and bio-ethical issues in contemporary medicine are among the topics to be considered.

William F. May, Professor and Chairman of the Department of Religious Studies at Indiana University in

UNIVERSITY OF KANSAS MEDICAL CENTER

DIVISION OF CONTINUING EDUCATION—DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION

Symposia:

April 5, 6 and 7, 1976, **OPHTHALMOLOGY: GLAUCOMA**

Guest Faculty:
LESLIE W. NESMITH, M.D., Private Practice, Wichita, Kansas.
CHARLES D. PHELPS, M.D., University Hospitals, Iowa City, Iowa.
KENNETH T. RICHARDSON, M.D., Clinical Ophthalmology, Anchorage, Alaska.
GEORGE L. SPAETH, M.D., Thomas Jefferson University, Philadelphia, Pennsylvania.

Subjects to be discussed will include: The Glaucoma Suspect—When to Treat; How to Assess the Optic Nerve; Treatment of Glaucoma in the Aphakic Eye; Low Tension Glaucoma; Medical Management Problems; New Drug Delivery Systems; Surgery of Angle-Closure Glaucoma; The Intraocular Lens—History and Optics; and Retinal and Vitreous Complications of the Intraocular Lens—Management of Vitreous Loss at Cataract Extraction.

Registration Fee: $120.00

April 21 and 22, 1976, **FAMILY PRACTICE**

Subjects to be discussed will include: Surgical Management of Renal Vascular Hypertension; The Therapy of Hypertension; The Importance of the Neurological Examination; The Management of the Seizure Patient; Treatment of Parkinson's Disease; Headaches: A Three Year Study; Sex and the Adolescent; V.D. in the Adolescent; Adolescent Depression; Kids and Colds; High Risk Pregnancy; Office Diagnosis of Anemia; and Hippocrates Revisited—Practical Office Ethics.

Registration Fee: $85.00

April 23, 1976, **INFECTIOUS DISEASES**

Guest Faculty:
MICHAEL L. FURCOLOW, M.D., College of Medicine, University of Kentucky, Lexington.
CARL B. HALL, M.D., President, American Academy of Family Physicians, Charleston, West Virginia.
MICHAEL W. RYTEL, M.D., Medical College of Wisconsin, Milwaukee.
W. EUGENE SANDERS, Jr., M.D., Creighton University School of Medicine, Omaha, Nebraska.
W. JACK STELMACH, M.D., University of Missouri of Kansas City Medical School.
LOUIS WEINSTEIN, M.D., Ph.D., Harvard Medical School, Boston, Massachusetts.

Subjects to be discussed will include: The Spectrum of Cytomegalovirus Infections; Interpretation and Utility of Skin Tests for TB and Fungal Diseases; Infective Endocarditis; Clinical Spectrum of Streptococcal Disease; Bronchopulmonary Infections—1976; and Antibiotic Therapy.

Registration Fee: **None.**

For program announcement and information, write: DEPARTMENT OF POSTGRADUATE MEDICAL EDUCATION, University of Kansas Medical Center, Kansas City, Kansas 66103.

Bloomington, will direct the fourth seminar on the Stanford University Campus in Stanford, California June 28-July 23. Participants will explore basic ways of interpreting human nature and obligation as they affect decisions in medical practice. The seminar will also attempt to clarify the role of the practitioner in the several communities in which he or she operates, including the doctor-patient relationship, the family facing medical crisis, the decision-making ethos of the hospital, and the claims of society at large.

Applications are invited from physicians and other members of the health professions, including public health officials, nurses, hospital administrators, executives of professional societies, and others. Selection of participants will be made by the seminar directors with the advice of selection committees. The application deadline for the University of Pennsylvania and Stanford University seminars is April 15, with selections to be announced about April 22. The application deadline for the Ohio State University and University of Texas seminars is May 13; selections will be announced about May 28.

Further information, including a leaflet describing the seminars in greater detail and application forms, may be obtained from:

Professor John C. Burnham
Department of History
The Ohio State University
230 West 17th Avenue
Columbus, Ohio 43210

Professor William F. May, Chairman
Department of Religious Studies
Sycamore Hall 230
Indiana University
Bloomington, Indiana 47401

Professor Renée C. Fox, Chairman
Department of Sociology
128 McNeil Building CR
University of Pennsylvania
Philadelphia, Pennsylvania 19174

Professor H. Tristram Engelhardt, Jr.
Institute for the Medical Humanities
University of Texas Medical Branch
Galveston, Texas 77550

NEW MEMBERS

The JOURNAL *takes this opportunity to welcome these new members into the Kansas Medical Society.*

Muhammad M. Butt, M.D.
1010 Third
Concordia, KS 66901

Carl W. Fieser, M.D.
1315 Broadway
Great Bend, KS 67530

Charles G. Filbert, D.O.
1400 Polk Street
Great Bend, KS 67530

Roy B. Lacoursiere, M.D.
3738 Plaza Drive
Apt. 106
Topeka, KS 66609

Neftali Olmo, M.D.
Menninger Foundation
Box 829
Topeka, KS 66601

Roger S. Pasimio, M.D.
PO Box 309
Columbus, KS 66725

Tetsuro Takahashi, M.D.
Menninger Foundation
Box 829
Topeka, KS 66601

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high-contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

The President's Message

(Continued from page 115)

now more than 12 years out of date is deplorable. Nevertheless, Blue Shield, which insures more than half of the citizens of Kansas, now tells us that they are more than two years away from conversion to a modern five-digit coded procedural terminology! This information contradicts earlier estimates by Blue Shield of a 1977 target date. It is true that the federal health insurance programs have pressured the Blues to slow down any changes. But it is also our conviction that some of the considerable energy now being devoted to finding "alternative health care payment systems" within the Blue Shield staff could be much more usefully directed toward speeding up the institution of a modern medical service terminology. We need to pursue this goal with firmness.

A joint educational effort with our colleagues, the pharmacists, to gain a better understanding of prescribing practices, is needed.

Our direct ties with the regional representatives of the federal health insurance program and the private voluntary health insurance industry must be greatly reinforced. We hope that the committees with these responsibilities will be as active next year as the new Blue Shield Liaison Committee of KMS was this year.

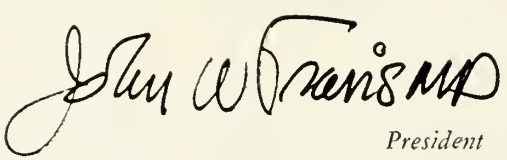
Continuing medical education opportunities within Kansas are rapidly expanding. Particular praise goes to the many who have worked in this area, and especially to the Wichita Branch of the University of Kansas Medical School, for the growing number of outstanding CME programs for doctors and other health professionals which have been developed. Innovation in the character and content of the long-running, much-praised KUMC circuit courses will enhance their established value as a CME mechanism.

Finally, the KMS should establish its own formal "judicial council" which could act on matters of dispute and professional discipline in a timely and forthright manner, taking advantage of the specific immunities we hope to gain from our legislative program. Such a council could, in turn, assist component local societies in the development of meaningful, consistent bylaws dealing with matters of medical censorship, discipline, and dispute. The relationship of the Kansas Medical Society to the Kansas State Board of Healing Arts through such a council could be clearly defined by Board policy in such a manner as to blunt the criticism that physicians are either fearful of or have no interest in disciplining themselves.

These are only a few of the issues which I leave but lightly touched. It has been an exciting year. Some significant steps have been taken. But so much yet remains to be done that I must plead with you to give your new President, Emerson Yoder, an even greater measure of your personal support.

Thank you for the privilege of working for you!

Fraternally,



President

117th Annual Session
KANSAS MEDICAL SOCIETY

May 2-5, 1976
SALINA, KANSAS

Sunday, May 2—House of Delegates First Session, 9:00 AM —Marymount College

Monday, May 3—Sports Day, Salina Country Club

Tuesday, May 4—Scientific Sessions, Community Theatre

Wednesday, May 5—House of Delegates Second Session, 8:30 AM—Hilton Inn

Make Your Reservations Now!

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CLASSIFIED ADVERTISEMENTS

Kansas licensed, 52-year-old physician, trained in internal medicine, Board certified in pediatrics, in general practice 5 years, is looking for location in Kansas. Contact: Don C. Petersen, MD, 8417 Carter, Overland Park 66212. Phone: 913-341-6385.

Experienced, licensed, native born MD in 40s, certified in Pediatrics and Family Practice, available for weekend locum tenens or emergency room work within 100-mile radius of Topeka. Write Box 1-276 in care of the *Journal.*

Orthopedic Surgeon Vacancy. Board certified or eligible. 200-bed GM&S affiliated teaching hospital. Equal opportunity employer. Contact Acting Chief of Staff, V.A. Center, 5500 E. Kellogg, Wichita, KS 67218. Phone: 316-685-2221, Ext. 215.

PATHOLOGIST, certified AP and CP. Mid-40s. University trained, experienced in all fields of lab medicine. Seeks directorship of hospital; will consider lab or partnership position. Write Box 1-1275 in care of the *Journal.*

FOR SALE: Urology practice in Central Kansas. Write Box 2-1275 in care of the *Journal.*

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Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

Found useful in the management of vertigo* associated with diseases affecting the vestibular system.

Can relieve nausea and vomiting often associated with vertigo.*

Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.

Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.

Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* Warning
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F Co., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation

12-hour claims
are nothing new.

12-hour relief is.



NEW

Novafed® A Capsules

Each capsule contains pseudo-ephedrine hydrochloride 120 mg. and chlorpheniramine maleate 8 mg.

Controlled-Release Decongestant Plus Antihistamine

It goes the distance.





Clinical studies confirm full 12-hour effectiveness.

For years, patients have heard of drugs providing long-lasting relief. But after six or eight hours, they often run out of relief. And it's too soon to take the next dose.

Now, with Novafed A, Dow introduces a prescription capsule with 12-hour effectiveness in relieving allergy and hay fever symptoms. Placebo-controlled clinical studies show that the high level of decongestant in Novafed A provides relief for as long as 12 hours. At the same time, its antihistamine relieves the patient's itchy eyes and runny nose *without* the excessive dryness of anticholinergic agents.

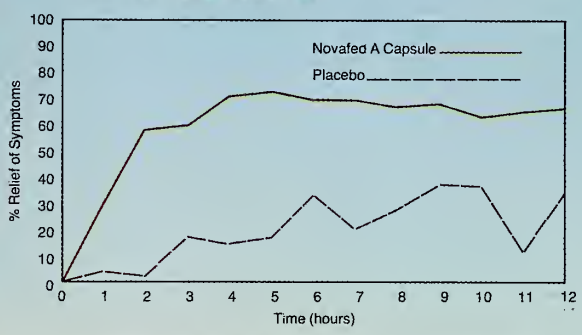
Prompt onset of effect is followed by full 12-hour relief.

(Please refer to the following page for bioavailability studies and prescribing information.)



Patients with severe pollen allergies were tested during hay fever season in a countryside environment and asked to rate severity of five different symptoms on a scale of 1 to 4.

Clinical Study: Degree of Relief from Itchy Eyes and Nose and Throat, Watery Eyes, Runny Nose*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

DOW®

Specialists in Cough and Cold Care



Novafed A Capsules

Each capsule contains pseudoephedrine hydrochloride 120 mg and chlorpheniramine maleate 8 mg.

Controlled-Release Decongestant Plus Antihistamine

It goes the distance.



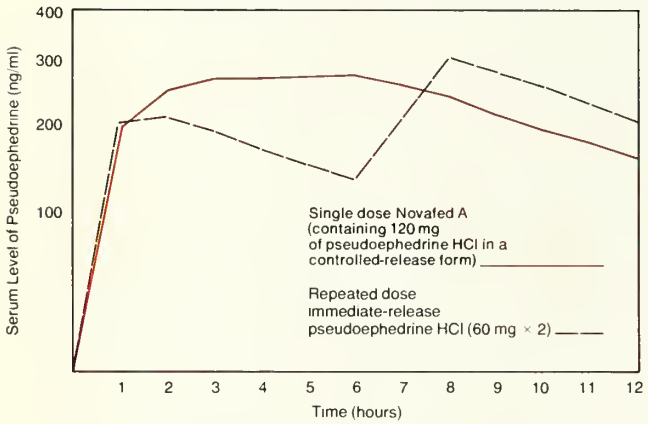
Prompt onset and sustained serum levels over 12 hours.

A bioavailability study confirmed that the sustained 12-hour action of Novafed A was comparable to that of immediate-release medication taken at 6-hour intervals.

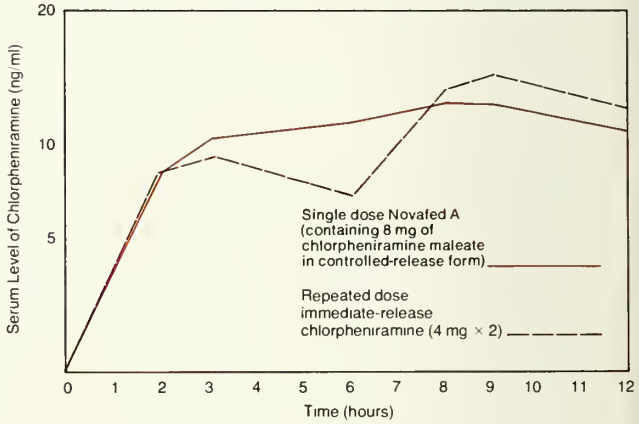
The chart at the left shows the serum levels of pseudoephedrine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 60 mg. pseudoephedrine hydrochloride in an immediate-release form. Serum levels of pseudoephedrine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

The chart at the right shows the serum levels of chlorpheniramine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 4 mg. chlorpheniramine maleate in an immediate-release form. Serum levels of chlorpheniramine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

Comparison of Mean Serum Levels of Pseudoephedrine Following Novafed A and an Immediate-Release Reference Formulation*



Comparison of Mean Serum Levels of Chlorpheniramine Following Novafed A and an Immediate-Release Reference Formulation*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

DESCRIPTION: Each NOVAFED A capsule contains 120 mg. of pseudoephedrine hydrochloride and 8 mg. of chlorpheniramine maleate. The specially formulated pellets in each capsule are designed to provide continuous therapeutic effect for about 12 hours. Nearly one-half of the active ingredients is released soon after administration and the remainder is released slowly over the remaining time period.

ACTIONS: NOVAFED A combines the action of a nasal decongestant, pseudoephedrine hydrochloride, and an antihistamine, chlorpheniramine maleate. These ingredients are combined to provide prompt and sustained nasal and upper respiratory decongestant and antihistaminic action.

INDICATIONS: NOVAFED A is indicated for the relief of nasal congestion and eustachian tube congestion associated with the common cold, sinusitis and acute upper respiratory infections. It is also indicated for perennial and seasonal allergic rhinitis, vasomotor rhinitis, allergic conjunctivitis due to inhalant allergens and foods and for mild, uncomplicated allergic skin manifestations of urticaria and angioedema. Decongestants in combination with antihistamines have been used for many years to relieve eustachian tube congestion associated with acute eustachian salpingitis, aerotitis media, acute otitis media and serous otitis media. NOVAFED A may be given concurrently, when indicated, with analgesics and antibiotics.

CONTRAINDICATIONS: Symphathomimetic amines are contraindicated in patients with severe hypertension, severe coronary artery disease, and in patients on MAO inhibitor therapy. Antihistamines are contraindicated in patients with narrow-angle glaucoma, urinary retention, peptic ulcer, during an asthmatic attack, and in patients receiving MAO inhibitors.

Children under 12: NOVAFED A controlled-release capsules should not be used in children less than 12 years of age.

Nursing Mothers: Pseudoephedrine is contraindicated in nursing mothers because of the higher than usual risk for infants from sympathomimetic amines.

Hypersensitivity: This drug is contraindicated in patients with hypersensitivity or idiosyncrasy to sympathomimetic amines or antihistamines. Patient idiosyncrasy to adrenergic agents may be manifested by insomnia, dizziness, weakness, tremor or arrhythmias.

WARNINGS: Sympathomimetic amines should be used judiciously and sparingly in patients with hypertension, diabetes mellitus, ischemic heart disease, increased intraocular pressure, hyperthyroidism, or prostatic hypertrophy. Sympathomimetics may produce central nervous system stimulation and convulsions or cardiovascular collapse with accompanying hypotension.

Antihistamines may impair mental and physical abilities required for the performance of potentially hazardous tasks, such as driving a vehicle or operating machinery, and mental alertness in children. Chlorpheniramine maleate has an atropine-like action and should be used with caution in patients with increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension or in patients with a history of bronchial asthma.

Do not exceed recommended dosage.

Use in Pregnancy: The safety of pseudoephedrine for use during pregnancy has not been established.

Use in Elderly: The elderly (60 years and older) are more likely to have adverse reaction to sympathomimetics. Overdosage of sympathomimetics in this age group may cause hallucinations, convulsions, CNS depression, and death. Therefore, safe use of a short-acting sympathomimetic should be demonstrated in the individual elderly patient before considering the use of a sustained-action formulation.

PRECAUTIONS: This drug should be used with caution in patients with diabetes, hypertension, cardiovascular disease and hyperreactivity to ephedrine. The antihistaminic may cause drowsiness and ambulatory patients who operate machinery or motor vehicles should be cautioned accordingly.

ADVERSE REACTIONS: Hyperreactive individuals may display ephedrine-like reactions such as tachycardia, palpitations, headache, dizziness, or nausea. Patients sensitive to antihistamines may experience mild sedation.

Sympathomimetic drugs have been associated with certain untoward reactions including fear, anxiety, tenseness, restlessness, tremor, weakness, pallor, respiratory difficulty, dysuria, insomnia, hallucinations, convulsions, CNS depression, arrhythmias, and cardiovascular collapse with hypotension.

Possible side effects of antihistamines are drowsiness, restlessness, dizziness, weakness, dry mouth, anorexia, nausea, headache and nervousness, blurring of vision, heartburn, dysuria and very rarely, dermatitis.

DRUG INTERACTIONS: MAO inhibitors and beta adrenergic blockers increase the effect of sympathomimetics. Sympathomimetics may reduce the antihypertensive effects of methyldopa, mecamylamine, reserpine and veratrum alkaloids. Concomitant use of antihistamines with alcohol, tricyclic antidepressants, barbiturates and other central nervous system depressants may have an additive effect.

DOSAGE AND ADMINISTRATION: One capsule every 12 hours. Do not give to children under 12 years of age.

CAUTION: Federal law prohibits dispensing without prescription.

HOW SUPPLIED: NOVAFED A is supplied in red and orange colored hard gelatin capsules, monogrammed with the Dow diamond followed by the number 109, in bottles of 100.

DOW

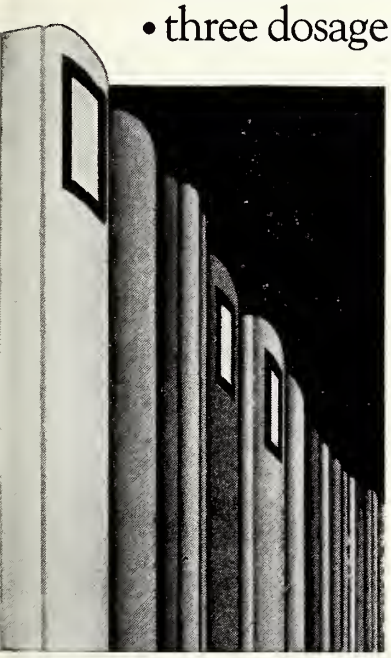
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The Dow Chemical Company
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Specialists in cough and cold care

LIBRIUM®
(chlordiazepoxide HCl)

FOR ALL THE RIGHT REASONS.

- prompt and specific action
- documented benefit-to-risk ratio
- three dosage strengths to meet most therapeutic needs



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.
Contraindications: Patients with known hypersensitivity to the drug.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)
Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

LIBRIUM®
chlordiazepoxide HCl/Roche
5 mg, 10 mg, 25 mg capsules

Please see following page.

LIBRIUM®
(chlordiazepoxide HCl)

FOR ALL THE RIG
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San Francisco, Calif. 94143
SUB

Yesterday's decision to use Librium for a clinically ar
patient was based on several good reasons. Safety. Effectiven
Versatility. And the reasons you chose it yesterday are as valid today.

Librium has accumulated an unsurpassed clinical record. A record validated in several thousand papers published both here and abroad.

Librium, when used in proper dosage, rarely interferes with a patient's mental acuity or ability to perform. However, as with all CNS-acting agents, good medical practice suggests that patients be cautioned against hazardous activities requiring complete mental alertness.

Librium has an established safety record and a documented benefit-to-risk ratio. And Librium is used concomitantly with such drugs as cardiac glycosides, diuretics, anticholinergics and antacids.

So when you consider antianxiety therapy, consider Librium. It's a good choice. For today. And tomorrow.



ROCHE

PROVEN ADJUNCT FOR CLINICAL ANXIETY

LIBRIUM® CIV

chlordiazepoxide HCl/Roche

Please see preceding page for summary of product information

Program Issue

THE Journal of the Kansas Medical Society

APRIL
1976

VOL. LXXVII
NO. IV

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Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in freque and/or severity of grand mal seizures n require increased dosage of standard a convulsant medication; abrupt withdra may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous i gestion of alcohol and other CNS depre sants. Withdrawal symptoms (similar tc those with barbiturates and alcohol) ha occurred following abrupt discontinuar (convulsions, tremor, abdominal and m cle cramps, vomiting and sweating). Ke addiction-prone individuals under caref

respond to one

According to her major
mptoms, she is a psychoneu-
tic patient with severe
xiety. But according to the
scription she gives of her
elings, part of the problem
ay sound like depression.
his is because her problem,
though primarily one of ex-
ssive anxiety, is often accom-
nied by depressive symptom-
ology. Valium (diazepam)
n provide relief for both—as
e excessive anxiety is re-
ved, the depressive symp-
ms associated with it are also
ten relieved.

There are other advan-
ges in using Valium for the
anagement of psychoneu-
tic anxiety with secondary
pressive symptoms: the
ychotherapeutic effect of
alium is pronounced and
pid. This means that im-
ovement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) ℞

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

rveillance because of their predisposi-
n to habituation and dependence. In
egnancy, lactation or women of child-
aring age, weigh potential benefit
ainst possible hazard.

ecautions: If combined with other psy-
otropics or anticonvulsants, consider
refully pharmacology of agents em-
oyed; drugs such as phenothiazines,
rcotics, barbiturates, MAO inhibitors
d other antidepressants may potentiate
action. Usual precautions indicated in
tients severely depressed, or with latent
pression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Vol. LXXVII, Number 4—April, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society. Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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Butler	Robert W. Proctor, El Dorado	Dale W. Anderson, Augusta
Central Kansas	Jeffrey C. Reynolds, Hays	Robert H. Cox, Hays
Cherokee	Richard M. Chubb, Baxter Springs	Orville A. Mehaffy, Baxter Springs
Clay	Richard C. Carleton, Clay Center	Severt A. Anderson, Clay Center
Cloud	Lynn C. Owensby, Concordia	Muhammad M. Butt, Concordia
Cowley	Stephen J. Smith, Arkansas City	Lawrence C. Green, Arkansas City
Crawford	Roger B. Schlemmer, Pittsburg	Frederick A. Tweet, Pittsburg
Dickinson	James O. Gilliland, Herington	Charles R. Svoboda, Chapman
Douglas	Glenn L. Madsen, Lawrence	Monti L. Belot, Jr., Lawrence
Edwards	W. Lynn McKim, Kinsley	M. Dale Atwood, Kinsley
Flint Hills	Duane A. Ginavan, Emporia	James N. Glenn, Emporia
Ford	Ronald McCoy, Dodge City	Carl K. Zacharias, Dodge City
Franklin	Louis N. Speer, Ottawa	Robert E. Sutton, Ottawa
Geary	Charles S. Bollman, Junction City	Herbert L. Bunker, Jr., Junction City
Harvey	Sharfuddin Shah, Halstead	Milton A. Claasen Newton
Iroquois	J. Roderick Bradley, Greensburg	Jack E. Randle, Bucklin
Jackson	James C. Seeley, Holton	M. Ross Moser, Holton
Jefferson	Robert R. Snook, McLouth	Robert C. Keys, Sr., Winchester
Johnson	Thomas V. Batty, Shawnee Mission	Wm. R. Brown, Shawnee Mission
Labette	Renato B. Aves, Parsons	Subramonian Paranjothi, Parsons
Leavenworth	Mark T. Cenac, Leavenworth	John C. Hammeke, Leavenworth
McPherson	Thomas Billings, McPherson	V. C. Price, McPherson
Marion	James Canellos, Goessel	Robert G. Franz, Hillsboro
Miami	Robert E. Banks, Paola	Jack G. Rowlett, Paola
Mitchell	Martin B. Klenda, Beloit	Carl W. Plowman, Jewell
Northeast Kansas	Donald A. Argo, Marysville	Tom A. Montgomery, Sabetha
Northwest Kansas	Clitus W. Olson, Goodland	George D. Marshall, Colby
Pawnee	Ole R. Cram, Jr., Larned	Thomas D. Ewing, Larned
Pottawatomie	L. V. Borgendale, Wamego	Bill L. Braden, Wamego
Pratt-Kingman	F. Giles Freeman, Pratt	Thornton L. Waylan, Nashville
Reno	Carl O. Stensaas, Hutchinson	David H. Tweito, Hutchinson
Republic	Ernie J. Chaney, Belleville	James A. Ward, Belleville
Rice	Curtis V. Wolf, Lyons	Richard A. Siemens, Lyons
Riley	Elbert D. McNeil, Manhattan	David E. McKnight, Manhattan
Saline	Raymond S. Freeman, Salina	Roy B. Coffey, Salina
Sedgwick	Curtis C. Drevets, Wichita	Pinckney R. Wheeler, Wichita
Seward	Jess W. Koons, Liberal	Jack D. Reese, Liberal
Shawnee	Dean T. Collins, Topeka	Dan A. Kelly, Topeka
Smith	Robert G. Sheppard, Smith Center	Hugh J. Woods, Smith Center
South Central Tri-County	Shelby D. Rose, Wellington	Walter A. Forred, Harper
Southeast Kansas	B. E. Howerter, Jr., Coffeyville	Donald C. White, Coffeyville
Southwest Kansas	David F. Beggs, Garden City	Alfred H. Thiemann, Sublette
Stafford	Robert L. Ward, Stafford	C. Everett Brown, Stafford
Wyandotte	Herman H. Jones, Kansas City	Barbara P. Lukert, Kansas City

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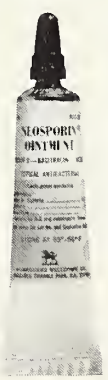
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Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components. **WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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Kansas Medical Assistants Society

April 30-May 2, 1976, Hilton Inn, Salina

Friday, April 30

5:00 Tour of Indian Burial Pit
6:00 Registration
8:00 "The Boston Tea Party 1773"
—Courtesy Munns Medical Supply, Inc.

Saturday, May 1

7:00 "Colonial Dolls"
Past Presidents' Breakfast
Mini Test and Review
Coffee
9:15 "Declaration of Independence 1776"
Salina Community Theater
9:30 "Ratification of the Constitution 1788"
Call to Order
Barbara Swann, President
Kansas Medical Assistants Society
Welcome
Raymond S. Freeman, M.D., President
Saline County Medical Society
Response
Mayor, City of Salina
9:45 "Bill of Rights 1791"
House of Delegates
Linda Hamilton, Speaker of the House
Presiding
12:00 "Poor Richard's Almanac 1732"
CMA Luncheon
1:30 House of Delegates—Salina Community Theater
2:00 Child Abuse
Frederick A. Gans, M.D., Salina
2:45 New Concepts in Psychiatry
Hugh D. Riordan, M.D., Wichita
3:45 AAMA Trustee
Dora Brooks, Birmingham, Alabama
4:30 Russia
Marvin R. Gunn, M.D., Salina
7:00 "Inaugural Ball"—Hilton Inn
36th Anniversary Banquet
Master of Ceremonies
Charles T. Hinshaw, M.D., Hutchinson
Presentation of Awards
Installation of Officers
Entertainment

Sunday, May 2

7:00 CMA Workshop
7:45 Buffet Breakfast
9:00 Call to Order
Barbara Swann, President
Presiding
9:30 Disability Determinations
Dwight Lawson, M.D., Topeka
10:30 Patriotism
Mrs. Francine Neubaner, Topeka
12:00 "Soaring Independence"
Luncheon—Hilton Inn
Presentation of Gavel
Acceptance
Joan Mzhickteno, CMA
President

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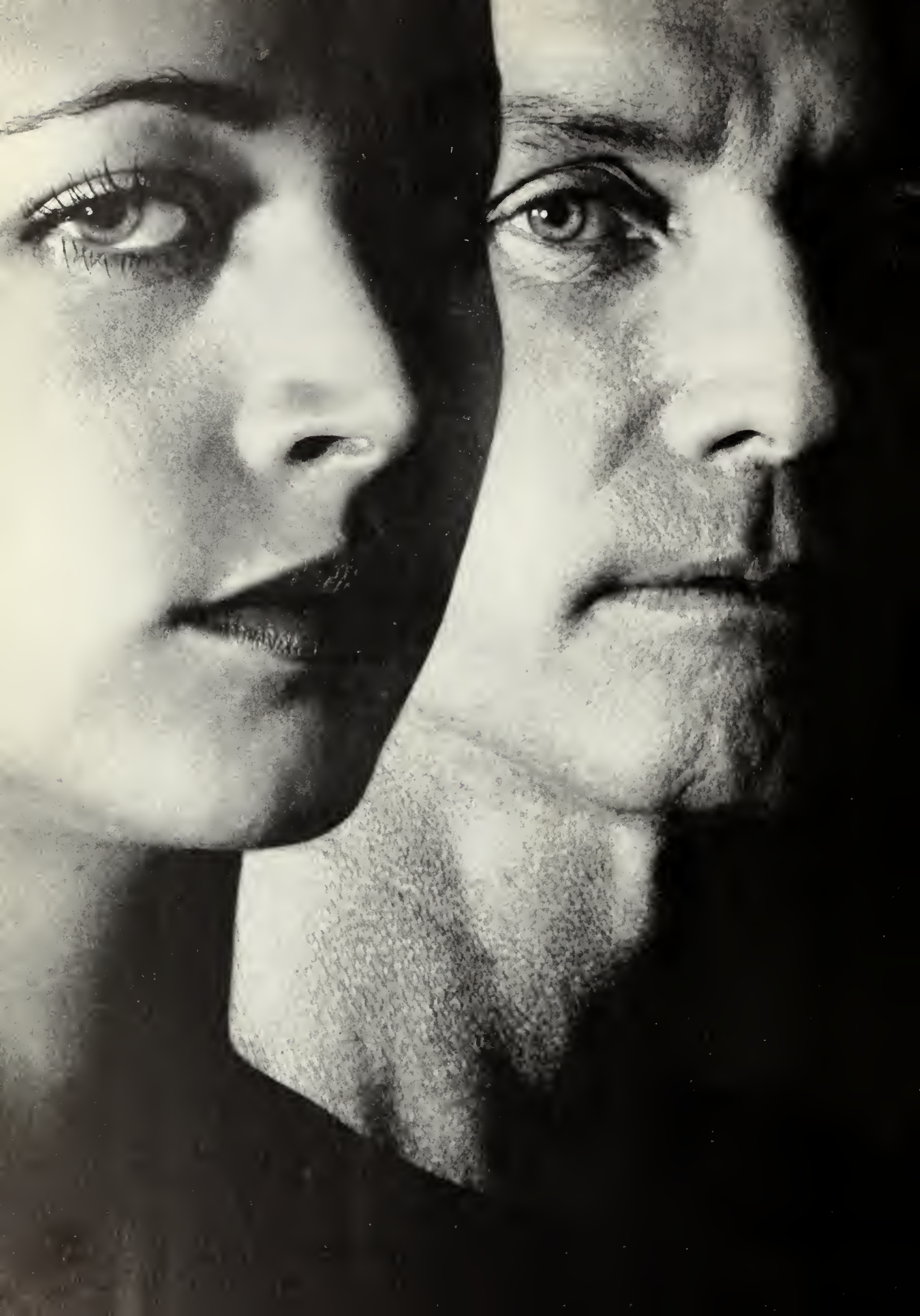
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Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct nontherapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

P·M·A
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1155 Fifteenth Street, N.W.
Washington, D. C. 20005

Council Meeting

Report of Meeting Held January 18, 1976

A meeting of the Council was held at 1:30 PM, on Sunday, January 18, 1976, at the Holiday Inn, Emporia. Dr. John W. Travis, President, called the Council to order.

Present were the following officers and councilors: John W. Travis, M.D., President; Drs. Royal A. Barker, John N. Blank, Clair C. Conard, Vernon W. Filley, Philip A. Godwin, Robert P. Hudson, John D. Huff, M. Robert Knapp, Glenn L. Madsen, W. E. McAllaster, Warren E. Meyer, G. W. Pogson, Ivan E. Rhodes, Alex Scott, William H. Walker, Roger D. Warren, Kermit G. Wedel, and Emerson Yoder. Also present were Drs. J. P. Brockhouse, Thomas P. Butcher, J. A. Gleason, Gregg M. Snyder, and William C. Swisher. Present as guests were Mr. Harold N. Godwin and Mr. Doug Johnson, representing the Kansas Pharmaceutical Association, and Dr. Lowell M. Wiese, of the Department of Health and Environment. Also present were Messrs. Gary Caruthers, Gary Rexford, and Jerry Slaughter.

Dr. Thomas F. Taylor, Salina, presented a report on the Health Service Areas (HSA) activities. Much of the discussion centered on the bi-state area in Kansas City. Dr. Taylor also noted that it was possible that the government would require physicians' clinics with gross billings of over one million dollars to come under the certificate of need authority. Dr. Taylor also reviewed the proposed certificate of need legislation, and noted that the bills were not objectionable in their present form.

Dr. Taylor then reported on the progress of the reorganization of the KaMPAC Board. It was noted that KaMPAC will make a concerted effort this year to correspond with the membership to notify them of current issues and of the candidates who are supportive of Medicine's viewpoints.

Mr. Harold Godwin and Mr. Douglas Johnson, of the Kansas Pharmaceutical Association, discussed legislation which KPA intends to introduce dealing with "physician-controlled" brand exchange. They emphasized the difference between a "brand exchange" and "substitution." The proposal as envisioned by KPA would require the physician to write "DISPENSE AS WRITTEN" on the prescription if brand exchange was not to be authorized. Additionally, the proposal would require that the name of the distributor and manufacturer be placed on each prescription label, and that the generic name and the brand name of the drug also be placed on the label. It was noted that five other states already have enacted such legislation.

Dr. John W. Huff, Kansas City, next reported on a meeting which he and Dr. Richard R. Beach, Topeka, attended with representatives from the Kansas Pharmaceutical Association. It was learned that the question of liability under such a proposal had not been settled, and that there existed a considerable doubt as to the issue of bioequivalence.

It was moved by Dr. M. Robert Knapp, Wichita, and seconded that the Kansas Medical Society retain its position adopted in Resolution F72-24. This motion carried. Dr. Travis then stated that the Kansas Medical Society will oppose the substitution proposal in testimony before the Senate Public Health and Welfare Committee.

Next, Dr. Gregg M. Snyder, Wichita, reviewed the work of the Medical Malpractice Commission, and summarized the 12 bills that had been reported by the Special Interim Committee on Medical Malpractice. Much of Dr. Snyder's remarks were directed to a discussion of the health care stabilization fund/joint underwriting association bill as it had been proposed by the Interim Committee. Dr. Snyder pointed out that it appeared the participation in the fund will have to be mandatory, and that the premium surcharge would be 40-65 per cent of the basic premium. He also noted that the bill should contain a provision authorizing periodic payments for awards in excess of $100,000 or $200,000.

Dr. Snyder pointed out that the Kansas Medical Society will ask for a reduction in the statute of limitations to two years for adults and minors. He urged the Council to consider attending the Kansas Association of Commerce and Industry (KACI) meeting entitled "Caucus '76" to be held in Topeka on February 2, 1976. He noted this meeting would enable the physicians to meet legislators and discuss the medical malpractice situation with them.

Dr. William C. Swisher, Wichita, member of the Healing Arts Board, updated the Council on some recent actions of the Board. He pointed out that a podiatrist had been added to the board, bringing the total number to 13. Dr. Swisher also announced that the Board of Healing Arts had recommended that

chiropractors be allowed to draw blood. The Board had also determined that the continuing medical education requirements would be based on KMS/AMA requirements, and would be effective July 1, 1975. Dr. Swisher reviewed the Board's position on use of physician's assistants, and noted that the proposed regulations were awaiting approval by the attorney-general.

Dr. Travis distributed to the Council a report on acupuncture prepared by the Healing Arts Board. After considerable discussion, the Council adopted the following motion made by Dr. Roger D. Warren, Hanover: "Because the Kansas Medical Society has seen no scientific data to merit the widespread use of acupuncture in this state, it opposes the recommendation of the Healing Arts Board that all licensees of the Board be authorized to utilize acupuncture."

The Council re-nominated Drs. Jesse Spearman and John Yulich to the Blue Cross Board of Directors, and directed Dr. Travis to select two additional nominees.

The Council approved the earlier action of the Executive Committee, supporting the Kansas Association of School Health with a $500 donation for 1976. Also approved was Society membership in the Shawnee Country Club (Topeka), and an expenditure for storm windows for the Society building.

The Council reviewed the proposed budget for the 1976 annual meeting. An accounting sheet of the Professional Liability Fund was also reviewed. The Council approved a recommendation for asking the membership for an additional contribution to the Professional Liability Fund.

There being no further business, the Council adjourned at 4:50 PM.

NECROLOGY REPORT

Following is a list of the members of the Kansas Medical Society whose deaths have been reported since the last meeting of the House of Delegates.

Name and Address	*Age*	*Date*
Harold R. Barnes, *Hutchinson*	74	Feb. 22, 1975
Clarence H. Benage, *Pittsburg*	73	Nov. 20, 1975
Herbert S. Bennie, *Almena*	79	June 25, 1975
John A. Billingsley, *Kansas City, KS*	78	Nov. 30, 1975
Frank C. Boggs, *Topeka*	89	Mar. 26, 1976
John Brownlee, *Hutchinson*	93	Aug. 25, 1975
Walter A. Carr, *Junction City*	98	Dec. 9, 1975
Porter M. Clark, *Independence*	77	Jan. 23, 1975
John S. Coleman, *Wichita*	85	Aug. 3, 1975
O. W. Davidson, *Kansas City, KS*	77	May 8, 1975
Ned B. Gorrell, *Parsons*	54	Feb. 20, 1976
Boyd L. Greever, *Hutchinson*	83	Dec. 5, 1975
Mayro O. Hedge, *Kansas City, KS*	87	Jan. 23, 1975
A. L. Hilbig, *Liberal*	74	Jan. 24, 1976
R. O. Howard, *Wichita*	94	Apr. 18, 1975
Thor Jager, *Wichita*	93	Nov. 18, 1975
Charles H. Johnson, *Shawnee Mission*	63	Apr. 18, 1975
Francis D. Kennedy, *Norton*	84	Feb. 8, 1975
John H. Lathrop, *Scott City*	58	Jan. 27, 1975
Rene P. Lefebvre, *Topeka*	55	June 2, 1975
Sylvia D. Lofgreen, *Ottawa*	77	Dec. 22, 1975
Orville A. McDonald, *Topeka*	90	Dec. 31, 1975
George E. Milbank, *Wichita*	78	Jan. 26, 1976
Francis J. Nash, *Kansas City, KS*	63	May 15, 1975
H. Preston Palmer, *Scott City*	78	July 6, 1975
Marion C. Pearson, *Concordia*	51	Aug. 21, 1975
Lloyd E. Peckenschneider, *Halstead*	77	Dec. 30, 1975
Mirl C. Ruble, *Cherryvale*	79	Jan. 27, 1975
Fred G. Schenck, *Burlingame*	80	July 31, 1975
Edward J. Schulte, *Shawnee Mission*	74	Apr. 7, 1975
John C. Scott, *Great Bend*	49	Oct. 4, 1975
Orval L. Smith, *St. Marys*	63	Mar. 20, 1976
Maurice F. Stock, *Pittsburg*	64	June 9, 1975
F. I. Stuart, *Atchinson*	90	Dec. 25, 1975
David L. Traylor, *Topeka*	58	Mar. 7, 1976
Gerald C. Unrein, *Hays*	82	Feb. 17, 1975

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AMA House of Delegates

Summary of Actions Taken at the 29th Annual Convention, Honolulu, Hawaii, November 30-December 3, 1975

The 1975 Clinical Session of the American Medical Association was held in Honolulu, Hawaii, November 30-December 3, 1975. Attendance was one of the best in the history of the session. Included were approximately 116 Kansans who not only were able to enjoy the AMA Session, but had a delightful time touring the outer islands.

Working in the relaxed atmosphere of beautiful Hawaii, the House of Delegates reached many decisions important to every physician. Of prime concern were liability insurance, AMA reorganization and "streamlining," review of progress toward return to financial solvency, federal legislation, health manpower, federal health care regulations, and physician-hospital relations.

A summary of the most important considerations of the House is as follows.

■ Aggressive steps to counter federal incursion into the practice of medicine were taken by the AMA House of Delegates by adopting a Board of Trustees report, calling on medical societies to express to Congress their concern that proposed new amendments to Medicare and Medicaid would discourage physician participation and defeat the goals of the federal programs. The amendments would fix Medicaid reimbursement at 80 per cent of the Medicare basis, which is limited by the 75th percentile provisions and unrealistic economic indexes. "Two levels of care, one for private patients and one for patients whose care is provided as benefits under federal programs, is not the goal of physicians and it was not the avowed goal of Congress when these programs were established," the Board report said.

■ The House reaffirmed its support of action to curtail rule-making by administrative agencies through the *Federal Register*. It backed the AMA-developed bill to correct rule-making abuses, and called on medical societies and individual physicians to give active support to the bill (HR 10301).

■ A Board report detailing AMA activities opposing the National Health Planning and Resources Development Act was approved by the House. "Legal action is under advisement and there appear to be sufficient grounds on which to challenge the constitutionality of the law at the appropriate time," the report said.

■ The AMA position on health manpower legislation, as presented in testimony before Congress (see *AMA Newsletter*, 11-17), was reaffirmed by the House. The House voted down a move to withdraw its support of the AMA-developed national health insurance bill (HR 6222) and to oppose all NHI programs. In backing HR 6222, the House called on AMA spokesmen and publications to make it clear that the bill is an NHI program based on the purchase of private health insurance.

■ A program to intensify legislative activities by establishing additional lines of communication between AMA Headquarters and medical societies was approved by the House. The House suggested that each state medical association designate staff to coordinate its role in the federal legislative program.

■ A Board report defining interns and residents as both students and employees was adopted by the House. As employees, interns and residents have a legal right to organize and engage in collective bargaining, and it is

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appropriate for medical societies to aid or represent interns, residents, and attending physicians in resolving disputes with hospitals and others. "Such activities," the report stated, "should be geared to achieve legitimate objectives without sacrificing the quality of graduate medical education or patient care." The Board reported that it would authorize the Executive Vice President to implement the policy by offering the assistance of the Division of Professional Relations to state societies. In another action, the House urged hospitals to take all reasonable measures to resolve labor disputes expeditiously, so that citizens of the community are not deprived of essential medical services.

■ Two reports dealing with physician-hospitals relationships were adopted by the House. A Board report calls for a joint program with medical societies to provide consultation and representation on behalf of members in "grievances, disputes, professional problems, or terms or conditions of salaried employment by hospitals or privileges in the case of attending physicians who are not hospital employees." The other report describes the findings of the Council on Medical Service survey of mechanisms used by medical societies in developing liaison with and assisting medical staffs in their dealings with hospitals and other institutions. The report will be distributed to medical societies. The House also stated that physicians acting as spokesmen for the medical staff to hospital governing boards should be elected by the medical staff.

■ The Ad Hoc Committee on Internal Affairs, established by the House at the 1975 Annual Convention, reported in detail on the AMA's financial affairs, and concluded that the priorities approved by the House are receiving appropriate financial emphasis and attention. The House adopted the committee's recommendation that the officers, the trustees, and the administration be commended for "the courageous, intelligent and diligent manner in which they have addressed and moved toward solution of the problems of the AMA in reference to fiscal affairs, organizational structure and identification of the goals and priorities of the Association." In another action, the House called for reaffirmation of AMA's dedication to active participation in the solution of problems in public health and health delivery, and that such activity be given highest priority.

■ The House received detailed reports from the Board on the 1976 budget, and on progress made in implementing House actions on organizational structure, financial affairs, and publishing activities. It adopted a Board report proposing that billing of 1975 members

If National Health Insurance Legislation Passes

Will government standards of medical practice be mandated? Or will community standards of practice prevail?

Will you as a physician be paid by the Federal Government? Or, will payments be made by patients and their private health insurance policies?

Will there be one government system of medicine? Or, will there be multiple forms of practice, including private and group practice?

These and other issues are being debated in Congress right now. Join KaMPAC so that medicine's voice can be better heard. KaMPAC is your voluntary, bipartisan political action committee. Your dues are used to support legislators who share medicine's concerns and listen to our views.

If you have not already joined, send your $40 check to:

KaMPAC
1300 Topeka
Topeka, KS 66612

who have not paid the mandatory $60 special assessment be continued during calendar year 1976. As of November 20, the Board reported, 141,411 members had paid the assessment and revenue from the assessment was about $8.5 million.

■ An expanded program of attack on professional liability insurance problems was approved by the House. The program includes reaffirmed support for the American Medical Assurance Company, plus intensified activity in tort reform, membership and public communication projects, risk management and quality control projects, and the development of compensation and arbitration models to test effectiveness in reducing the frequency of claims.

■ The House approved the establishment of an Ad Hoc Committee on Medical Discipline. As outlined in a report from the Board, the committee will determine the effectiveness of discipline and whether improvement in the disciplinary system will result in a decreased incidence of malpractice claims; review the mechanisms of medical associations and the procedures of hospitals; and recommend additional improvements in state legislation and licensure board regulations. The House asked the Board to make a preliminary report at the 1976 Annual Session, and a final report at the 1976 Clinical Convention.

■ A series of proposals to change the structure of the AMA, presented by the Council on Long Range Planning and Development, was debated by the House. Rejected were recommendations that would have made state associations the basic membership units, with all members of the state associations becoming AMA members, and changed representation in the House to provide delegates for specialty societies and other physician organizations. Recommendations that called for elimination of the section councils and the creation of affiliate membership for specialty societies were referred to the council for reconsideration.

■ The House voted to designate all Councils as councils of the AMA, with all except the Judicial Council reporting through the Board of Trustees to the House. It added that the Board would retain its fiduciary and corporate responsibilities in transmitting council reports to the House. Except for the section councils, the Council on Scientific Assembly and the Council on Legislation, all councils would be elected by the House from nominations submitted by the Board and by delegates from the House floor.

■ A recommendation that the AMA function with as few councils as possible, and that committees with limited time-frames be used to accomplish specific goals, was approved by the House. A recommendation for the

(Continued on page 170)

Doctor, here are 100% deductible retirement plans!

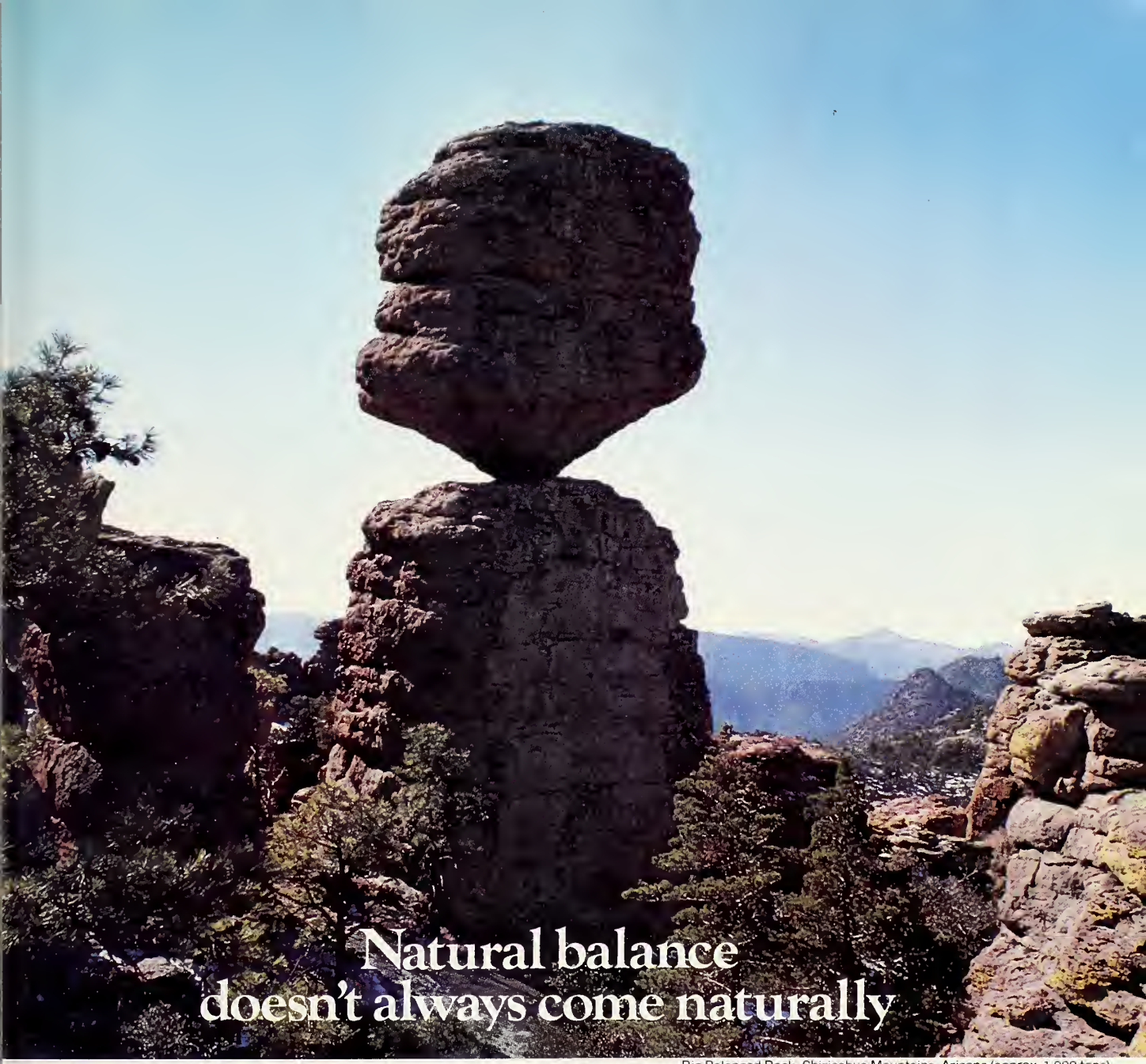
You can now save up to $7,500 per year or 15% of earned income (whichever is less) in a KEOGH RETIREMENT PLAN at Capitol Federal earning up to 7.75% per year and deduct the entire amount from your taxable income—even the interest earned is tax-sheltered until withdrawn during retirement, beginning as early as age 59½ • Or you may use the similar IRA PLAN contributing up to $1,500 per year or 15% of earned income (whichever is less) • You may also use our Pre-Authorized Payment system to make your deposits automatic • Let us help you set up your retirement plan now with FSLIC insured safety.

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Big Balanced Rock, Chiricahua Mountains, Arizona (approx. 1,000 tons)

□ Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
□ Can relieve nausea and vomiting often associated with vertigo.*
□ Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
□ Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
□ Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

Effectiveness across the spectrum of most common forms of insomnia

Awake too long, awake too often, awake too early...

These are the most common forms of insomnia, and may occur singly or in any combination. The night of troubled sleep depicted here comprises all three types. As the night progresses from left to right, each sleep stage is identifiable by its own shade of gray. Blue represents "Awake."

As you can see, this hypothetical "patient" takes well over an hour to fall asleep, awakens several times during the middle of the night and awakens too early in the morning.

Sleep Stages

- Awake
- REM
- Stage 1
- Stage 2
- Stage 3
- Stage 4



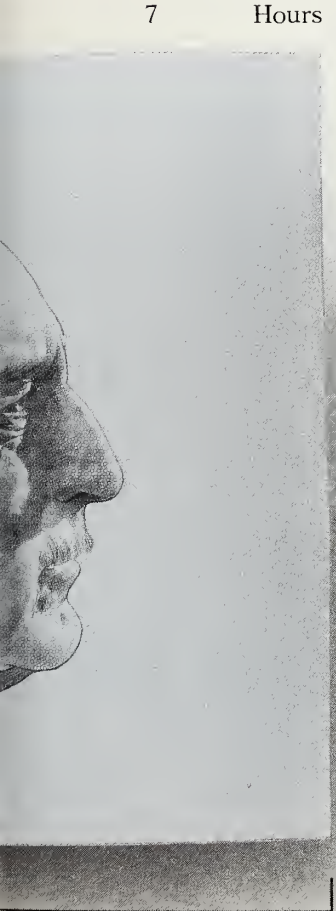
The insomnias most often occurring in young and older adults

For patients with trouble falling asleep (common in young adult insomnia patients), Dalmane (flurazepam HCl) 30 mg provides sleep within 17 minutes, on average. For those with trouble staying asleep or sleeping long enough (common in those over 50), Dalmane offers increased total sleep time with fewer nocturnal awakenings. These clinical results were demonstrated in studies conducted in four geographically separated sleep research laboratories.[1-4]

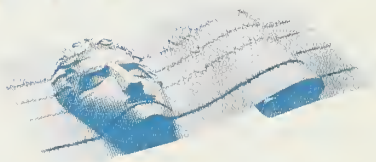
The relative safety of Dalmane (flurazepam HCl) is well documented

Dalmane (flurazepam HCl) is relatively safe and well tolerated; morning "hang-over" has been infrequent. The usual adult dosage is 30 mg; in elderly or debilitated patients, limit initial dosage to 15 mg to preclude over-sedation, dizziness or ataxia. Caution patients about possible combined effects with alcohol and other CNS depressants.

Broad-spectrum medication for the most common forms of insomnia



Awake too early



Dalmane®
(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage
(15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

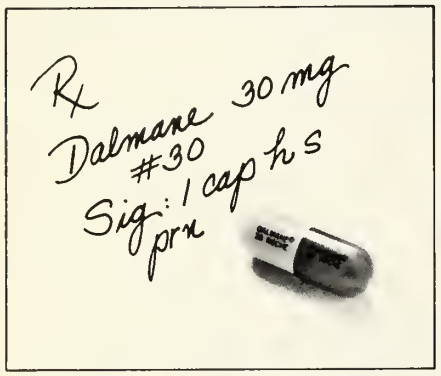
- ☐ induces sleep rapidly
- ☐ reduces nighttime awakenings
- ☐ lengthens total sleep time

ROCHE

Please see following page for a summary of complete product information.

Broad-spectrum medication for the most common forms of insomnia

Dalmane®
(flurazepam HCl) ℞ IV



Objectively proved in the sleep research laboratory, Dalmane

- induces sleep within 17 minutes, on average
- reduces nighttime awakenings
- provides 7 to 8 hours sleep, on average, without repeating dosage

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

REFERENCES:

1. Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-7, 1971
2. Frost JD Jr: A system for automatically analyzing sleep. Scientific exhibit at the 24th Clinical Convention of the American Medical Association, Boston, Nov 29-Dec 2, 1970; and at the 42nd annual scientific meeting of the Aerospace Medical Association, Houston, Apr 26-29, 1971
3. Vogel GW: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ
4. Dement WC: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ



ROCHE

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
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DYAZIDE®

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Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

MAKES SENSE

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F Co., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation



HELP STOP THE TEARS

of colic, diarrhea or similar malady

USE LOMA LINDA'S i-SOYALAC

i-Soyalac and regular Soyalac are palatable, readily digestible and assimilated. It simulates human milk in appearance, taste and texture. It is complete with vitamins and minerals. It is suitable for all infants and children. Soyalac is especially recommended by physicians for children who are sensitive to or cannot tolerate cow's milk.

For nearly a quarter of a century, Soyalac has proven its value in promoting growth and development – as shown by extensive clinical data.

Available without carrageenan in: SOYALAC Liquid Concentrate, SOYALAC Powder and i-SOYALAC Liquid Concentrate.

Now in 32 oz. size. Ready-to-Serve

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SJ-4

Please send me free sample and literature.

Name_____

Address_____

City_____

State_____ Zip_____

Or a simple note on your prescription form will do.



i-SOYALAC contains no corn products.

House of Delegates

SUNDAY–MAY 2

Marymount College Ballroom

7:30 Registration of Delegates

9:00 First Session

WEDNESDAY–MAY 5

Hilton Inn
Dover and Portsmouth Rooms, Upper Level

7:30 Registration of Delegates

8:30 Second Session

Council Meeting and Luncheon at Conclusion of House of Delegates–Dover Room, Upper Level

Reference Committees

SUNDAY, MAY 2, 2:00 P.M.

Committee A–Marymount College Ballroom

MONDAY, MAY 3, 9:00 A.M.

Committee B–Dover Room, Upper Level


Kefzol®
cefazolin sodium
Ampoules, equivalent to 250 mg., 500 mg., 1 Gm., and 10 Gm. of cefazolin
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Additional information available to the profession on request.
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Indianapolis, Indiana 46206
600062

Welcome to Salina

On behalf of the City of Salina and the Saline County Medical Society, a cordial welcome is extended to you and your wife to attend the Kansas Medical Society Annual Meeting in Salina, May 2-5, 1976.

We offer all of you adequate meeting space, motel accommodations, and recreation facilities in a congenial atmosphere. Try to come. We will greet you and try to provide the necessary ingredients for a successful meeting.

See you in Salina!

Raymond S. Freeman, M.D., President

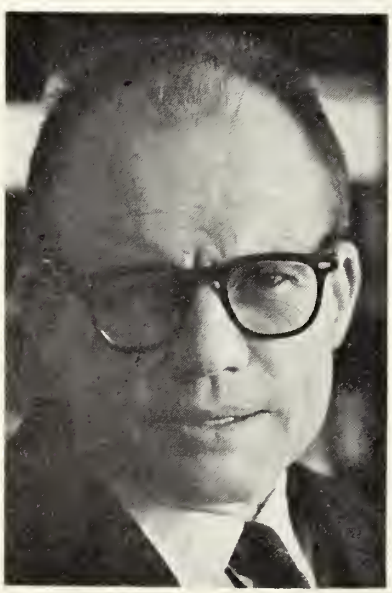
Saline County Medical Society

Distinguished Speakers

WESLEY H. SOWERS, J.D.



Mr. Sowers, a native of Indiana, was graduated from Purdue University with a degree of Master of Science. His Juris Doctorate degree was obtained from DePaul University, Chicago. He completed the Advance Management Program at Harvard University School of Business. He worked in the field of petroleum technology and chemical manufacturing. He is a registered practitioner before the Interstate Commerce Commission and U. S. Patent Office. In 1970, Mr. Sowers was elected to the Kansas Senate. He serves as Chairman of the Public Health and Welfare Committee; Vice-Chairman of Government Organization; and is on the Ways and Means, Calendar and Rules, and Local Government committees. He resides in Wichita.



ELMER E. GREEN, Ph.D.

Prior to returning to graduate school at the University of Chicago, where he received his Ph.D. degree in biopsychology in 1962, Dr. Green worked as a physicist in electronics and computing. He was Research Associate in the Department of Medicine, University of Chicago, before joining the staff of the Menninger Foundation, where he established a psychophysiology laboratory. His research has combined the disciplines of autogenic training and biofeedback training, and has included physiological studies of yogis in India. His present focus of attention is on biofeedback and the image making faculty, and their use in the establishment and maintenance of psychosomatic health. Dr. Green is director of the Voluntary Controls Program, Research Department, The Menninger Foundation, Topeka.



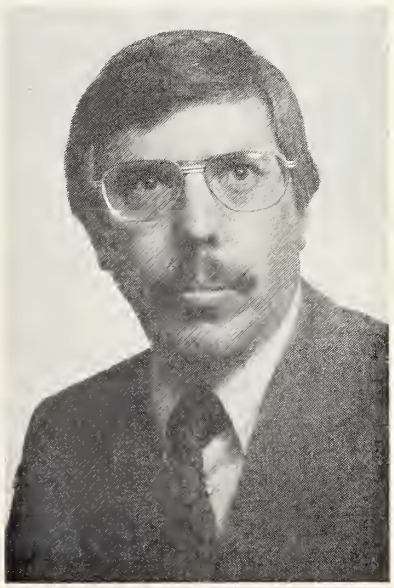
LEE J. DUNN, JR., J.D., LL.M.

Born in Boston, Mr. Dunn obtained legal training and the Juris Doctorate degree at Case Western Reserve University, Cleveland, in 1970. His LL.M. degree was obtained from Harvard University in 1971. He is currently Legal Counsel to the University of Kansas Medical Center, and serves as Special Assistant to the Attorney General. He is also Assistant Professor of Medical Jurisprudence at the University of Kansas School of Medicine. Dr. Dunn has published numerous papers dealing with law and medicine, and has appeared as guest lecturer at a number of schools.

JOSEPH D. SARGENT, M.D.

A native of Ohio, Dr. Sargent was graduated from the University of Michigan School of Medicine in 1958. He served his residency at the Henry Ford Hospital, Detroit. The fellowship training in psychosomatic medicine was completed at the Menninger Foundation, Topeka. He has been Chief of Internal Medicine at the Menninger Foundation since 1972. Dr. Sargent has published numerous papers. The topic of his presentation will be Clinical Management of Migraine with Biofeedback.





WAYNE T. STRATTON, J.D.

Born in Topeka, Mr. Stratton was graduated from Washburn University with the Juris Doctorate degree in 1958. He served as Judge Advocate with the U. S. Air Force until 1960. He is presently a partner in the law firm of Goodell, Casey, Briman and Cogswell, Topeka. Mr. Stratton serves as supervising attorney for the Clinical Semester Program and also is the instructor in Trial Techniques at Washburn University. He is President of the Topeka Board of Education. Mr. Stratton is on retainer as general counsel for the Kansas Medical Society.

J. HAROLD WILLIAMS, M.D., LL.B.



After graduating from the Jefferson Medical College of Philadelphia, Dr. Williams practiced general medicine until he obtained his LL.B. degree from the University of California, Berkeley. He has been in law practice since 1961, principally representing plaintiffs in malpractice and drug liability cases. Besides the full time practice of law, Dr. Williams serves as Adjunct Professor of Health Care Administration, Wichita State University. He co-authored the legal treatise, *Medical Malpractice*, and also co-authored fifteen volumes of medical materials for lawyers. A book for doctors, *The Parenchyma of Law*, was co-authored by Dr. Williams.

No Photograph Available

RICHARD C. BATES, M.D.

Dr. Bates is a graduate of both Michigan State University and the University of Michigan School of Medicine. He has been twice certified as a specialist by the American Board of Internal Medicine, and is a fellow of the American College of Physicians. In addition to being in solo practice as an internist for 25 years, Dr. Bates has specialized in the treatment of addictions. He has served as contributing editor of *Medical Economics*. An author of numerous medical articles and a book on the art of medical practice, Dr. Bates is best known as lecturer on the subjects of patient care, executive health, and the psychology of addictions.

Exhibits

The exhibits, located in Plymouth and Exeter Rooms, Upper Level, Hilton Inn, will be open Monday, 7:30 a.m. to 1:00 p.m.; Tuesday, 7:30 a.m. to 5:00 p.m., and Wednesday, 7:30 a.m. until Noon.

Register at the exhibit booths for drawings to be held at the dinner on Tuesday evening.

Booth No.	
1	G. D. Searle & Company Chicago, Illinois
2	Vitalograph Medical Instrumentation Lenexa, Kansas
3	Summit Medical Distributors Lees Summit, Missouri
4	Sandoz Pharmaceuticals E. Hanover, New Jersey
5	KaMPAC
6	The Medical Protective Company Fort Wayne, Indiana
7	Twin AA Cutlery Company Abilene, Kansas
8	Washington National Insurance Co. Topeka, Kansas
9	The Upjohn Company Kansas City, Missouri
10	Zimmer-Bud Newell & Associates, Inc. Topeka, Kansas
11	Munns Medical Supply Company, Inc. Topeka, Kansas
12	Wyeth Laboratories Philadelphia, Pennsylvania
13	Bristol Laboratories Syracuse, New York
14	Kansas Blue Cross-Blue Shield Topeka, Kansas
15	Hoechst-Roussel Pharmaceuticals, Inc. Somerville, New Jersey
16	U. S. Air Force Medical Services
17	Boehringer Ingelheim, Ltd. Elmsford, New York
18	Encyclopaedia Britannica, Inc. Chicago, Illinois
19	Smith, Kline & French Labs Philadelphia, Pennsylvania
20	Valley View Computing Systems Overland Park, Kansas

The Kansas Medical Society is grateful for the convention program grants received from

Duffens Optical Company
Topeka, Kansas

Eli Lilly and Company
Indianapolis, Indiana

CIBA-Geigy Corporation
Summit, New Jersey

A. H. Robins Company
Richmond, Virginia

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A COFFEE LOUNGE WILL BE OPEN IN THE ASSEMBLY AREA THROUGHOUT THE CONVENTION—*Compliments of Berlin-Wheeler, Inc., Topeka*

Hosts for the Meeting

Saline County Physicians Arranging 1976 Session

GENERAL CO-CHAIRMEN

John C. Mitchell, M.D.
Harold R. Smith, M.D.

Program Committee

Wendell K. Niekell, M.D.

Sports Day

Monte L. Allen, M.D.
Lloyd W. Hatton, M.D.
Merle A. Hodges, M.D.
Kermit G. Wedel, M.D.

Sunday, May 2, 1976

Marymount College Ballroom

7:00 Kansas Foundation for Medical Care—Executive Committee and Board of Directors Meeting
Luncheon—Suite 110, Hilton Inn

7:30 Registration—Tickets—Information
Hilton Inn, Main Lobby, Upper Level

9:00 House of Delegates—First Session
Clair C. Conard, M.D., Dodge City
Speaker
M. Robert Knapp, M.D., Wichita
Vice-Speaker

12:00 Kansas Society of Anesthesiologists
Luncheon-Meeting
Exeter Room, Hilton Inn

Kansas Obstetrical-Gynecological Society
Luncheon-Meeting
Suite 106-108, Hilton Inn

Kansas Allergy Society
Luncheon-Meeting
Suite 110, Hilton Inn

12:30 Delegates' Luncheon
Salina Country Club

2:00 Reference Committee A
Ballroom, Marymount College
William C. Swisher, M.D., Wichita, *Chairman*
F. G. Biehlmeier, M.D., Kansas City
Milo G. Sloo, M.D., Salina
M. C. Speneer, M.D., Topeka
W. J. VonRuden, M.D., Hutchinson

6:30 Dinner-Dance
Salina Country Club

VISIT THE EXHIBITS—REGISTER FOR DRAWING

A COFFEE LOUNGE WLL BE OPEN IN THE EXHIBIT AREA THROUGHOUT THE CONVENTION

TELEPHONE NUMBER (913) 827-0461

Monday, May 3, 1976

Hilton Inn, Upper Level

MORNING

7:30 Registration—Tickets—Information
Main Lobby
"Early Bird" Breakfast
With the Woman's Auxiliary to KMS
Dover and Portsmouth Rooms

9:00 Reference Committee B
Dover Room
Max E. Teare, M.D., Garden City,
Chairman
H. F. Coulter, M.D., Shawnee Mission
D. D. Decker, M.D., Halstead
J. A. Loeffler, M.D., Wichita
W. R. Lentz, M.D., Topeka

VISIT THE EXHIBITS—REGISTER FOR DRAWING

A COFFEE LOUNGE WILL BE OPEN IN THE EXHIBIT AREA THROUGHOUT THE CONVENTION

SPORTS DAY ACTIVITIES

Kansas Medical Society Golf, Skeet and Trap Association

10:30 Golfing—Salina Country Club (East Iron Street; turn left at Marymount College)
Monte L. Allen, M.D.

11:00 Trap Shoot—Salina Gun Club (West on Crawford Street to Burma Road; turn left and south 1¼ miles)
Lloyd W. Hatton, M.D.
Tennis—Salina Country Club
Merle A. Hodges, M.D.

6:30 Cocktails
Salina Country Club

7:30 Dinner
Salina Country Club

TELEPHONE NUMBER **(913) 827-0461**

Hilton Inn

MORNING

7:30 Registration—Tickets—Information
Main Lobby, Upper Level
Past Presidents' Breakfast
Suite 110 & 112, Upper Level

Kansas Psychiatric Society
Breakfast-Meeting
Portsmouth Room

FIRST GENERAL SESSION

Community Theatre Building,
3rd and Iron

Wendell K. Nickell, M.D., Salina, Moderator

8:30 Welcome
Raymond S. Freeman, M.D., President
Saline County Medical Society
Response
John W. Travis, M.D., President
Kansas Medical Society

8:30 Understanding Drug Abuse
Richard C. Bates, M.D.
Lansing, Michigan

9:15 Biofeedback—A New Tool for Medicine
Elmer E. Green, Ph.D., Director
Voluntary Controls Program
The Menninger Foundation
Topeka

10:15 Intermission to View Exhibits

10:45 Clinical Management of Migraine With Biofeedback
Joseph D. Sargent, M.D., Chief
Department of Internal Medicine
The Menninger Foundation
Topeka

12:00 General Luncheon
Hilton Inn
John C. Mitchell, M.D., Presiding

Physicians and the Legal Environment
Lee J. Dunn, Jr., J.D., Legal Counsel
The University of Kansas
School of Medicine
Kansas City, Kansas

May 4, 1976

SECOND GENERAL SESSION

Community Theatre Building,
3rd and Iron

Wendell K. Nickell, M.D., Salina, Moderator

1:45 Auto Pollution
Richard C. Bates, M.D.

2:30 Medical Liability—Panel I
Senator Wesley H. Sowers, Wichita
Gregg M. Snyder, M.D., Wichita
Wayne T. Stratton, Topeka
Fletcher Bell, Topeka
J. Harold Williams, Wichita
Lee J. Dunn, Kansas City, Kansas

3:30 Intermission to View Exhibits

4:00 Medical Liability—Panel II
Senator Wesley H. Sowers, Wichita
Gregg M. Snyder, M.D., Wichita
Wayne T. Stratton, Topeka
Fletcher Bell, Topeka
J. Harold Williams, Wichita
Lee J. Dunn, Kansas City, Kansas

5:00 Adjournment

This Continuing Medical Education Offering Meets the Criteria for 6 Hours of Credit in Category II for the Physician's Recognition Award of the American Medical Association

Tuesday, May 4, 1976

Salina Country Club

EVENING

Annual President's Banquet—
Kansas Medical Society

5:30 Reception for Physicians and Wives
Sponsored by
K.U. Medical Alumni Association

7:00 Dinner
John W. Travis, M.D., Topeka, President
Presiding

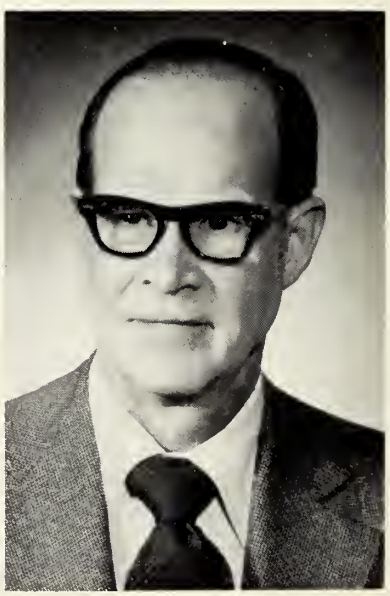
Introduction of Guests
Oath of Office to Incoming President
Archie R. Dykes, Ph.D., Chancellor
The University of Kansas

"Leslie W. Meadow"
Dance
Music by Geri Van Trio

President and President Elect



John W. Travis, M.D.
Topeka

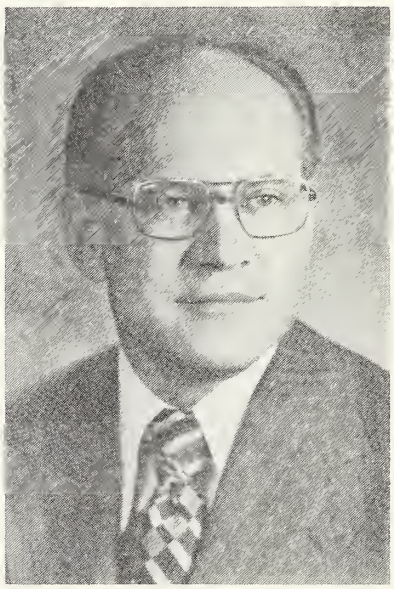


Emerson D. Yoder, M.D.
Denton

KMS ANNUAL MEETING PRESIDENT'S BANQUET MAY 4, 1976

ARCHIE R. DYKES, Ph.D., Banquet Speaker

Born in Tennessee, Dr. Dykes came to Kansas in 1973. He was graduated from the University of Tennessee with a degree of Doctor of Education, in 1959. Currently the Chancellor of the University of Kansas, Dr. Dykes served as Chancellor of the University of Tennessee, Knoxville, and Chancellor of the University of Tennessee, Martin. His prior academic career included professorship and directorship at the University of Tennessee. He has also served as Vice-Chairman of the Commission on the Operation of the U. S. Senate. Author of more than thirty published papers, Dr. Dykes has written the following books: *Faculty Participation in Academic Decision Making; Philosophic Theory and Practice in Educational Administration; School Board and Superintendent.*



Dr. and Mrs. John W. Travis extend a personal invitation to members of the Society and their guests to attend the President's Banquet on Tuesday evening, May 4, 1976.

Wednesday, May 5, 1976

Hilton Inn

MORNING

7:30 Registration—Information
Main Lobby, Upper Level

8:30 House of Delegates—Second Session
Dover and Portsmouth Rooms, Upper Level

1:00 Council Luncheon and Meeting
Dover Room

Nominating Committee

The Nominating Committee of the Kansas Medical Society met on Sunday, February 8, 1976, and submits to the House of Delegates the following list of nominations for the elective offices of the Society. Wherever more than one nomination appears, these are presented in alphabetical order. A very brief biography accompanies each name.

President-Elect

John D. Huff, M.D., Kansas City. Born in 1921. Graduated from the University of Kansas School of Medicine in 1952. Is past president of the Kansas Academy of Family Practice. Has served as Councilor.

First Vice-President

Warren E. Meyer, M.D., Wichita. Born in 1927. Graduated from the Northwestern University School of Medicine in 1951. Has served as Councilor.

Second Vice-President

James J. Basham, M.D., Fort Scott. Born in 1914. Graduated from the University of Kansas School of Medicine in 1937. Has been active on numerous KMS committees.

Vernon W. Filley, M.D., Pratt. Born in 1913. Graduated from the Nebraska University School of Medicine in 1943. Is currently serving as Councilor.

Donald D. Goering, M.D., Salina. Born in 1931. Graduated from the University of Kansas School of Medicine in 1956. Has served on a variety of KMS committees.

William M. Kane, Jr., M.D., Hays. Born in 1927. Graduated from George Washington University School of Medicine, Washington, in 1954. Has been active on a variety of KMS committees.

Constitutional Secretary

Phillip A. Godwin, M.D., Lawrence. Born in 1928. Graduated from the University of Kansas School of Medicine in 1955. Is currently serving as Constitutional Secretary.

Treasurer

Edward G. Campbell, M.D., Emporia. Born in 1931. Graduated from the University of Kansas School of Medicine in 1961. Is currently serving as Treasurer.

AMA Delegate

M. Robert Knapp, M.D., Wichita. Born in 1923. Graduated from New York College of Medicine in 1947. Has served as Councilor. Is currently serving as Vice-Speaker.

Alex Scott, M.D., Junction City. Born in 1923. Graduated from the University of Wisconsin School of Medicine in 1948. Has served as Councilor. Is currently serving as AMA Alternate Delegate.

Thomas F. Taylor, M.D., Salina. Born in 1926. Graduated from the University of Kansas School of Medicine in 1953. Has served as Speaker of the House, and as President.

AMA Alternate Delegate

Richard L. Brownrigg, M.D., Dodge City. Born in 1935. Graduated from the University of Kansas School of Medicine in 1961. Is currently serving as Chairman of the Commission for Medical Practices and Specialty Societies.

Kenneth L. Graham, M.D., Leavenworth. Born in 1921. Graduated from the Ohio State University School of Medicine in 1945. Has served as President. Is currently serving as Chairman of KMS-KUMC Liaison Committee.

Kermit G. Wedel, M.D., Minneapolis. Born in 1932. Graduated from the University of Kansas School of Medicine in 1960. Is currently serving as Councilor; is Chairman of the Commission for Health Services, and Chairman of the Committee on Services for Members.

Councilor Reports

Activities in the Council Districts of Kansas

DISTRICT 1

Members of Council District 1 met at the Atchison Country Club in July. Dr. John W. Travis, President of the Kansas Medical Society, made a spirited presentation of the medical liability crisis as it involves physicians, medical liability insurance companies, and the very active KMS Committee on Medical Malpractice. Information and discussions at this meeting contributed to guiding your Society in its presentation of medical-legal proposals to the Kansas Legislature, through testimony before the Interin Committee.

Additional problems facing the physicians in District 1 are public accountability through utilization review, limited numbers of physicians facing the ever-rising demands for services, rising overhead expenses, etc. All of these questions will be affected by the unique Kansas solution of the medical liability problem. Involvement in this problem by our physicians over the next several years will serve all Kansas citizens.

ROGER D. WARREN, M.D., *Councilor*

DISTRICT 2

In the last report, Wyandotte County Medical Society expressed its profound concern over the federal law which attached three eastern Kansas counties and the only state medical school to a joint Missouri-Kansas Health Area System. Despite a vigorous effort by Dr. John W. Travis and the Kansas Medical Society, this effort failed. Wyandotte County has had none of its fears allayed by the various favors of cooperation and equal representation that have appeared.

District 2 continues to grow by large increments. In December 1974, there were 350 voting members, and in December 1975, this number had increased to 384. Medical student interest in the local society also continues to surge. There are now 40 educational members, most of whom are medical students.

ROBERT P. HUDSON, M.D., *Councilor*

DISTRICT 3

The Johnson County Medical Society proudly hosted the 1975 Annual Meeting of the Kansas Medical Society held in Overland Park. The names of Drs. George R. Maser, John E. Johnson, and Henry B. Sullivan deserve special mention for their efforts in this connection.

The controversy involving the three para-Kansas City counties and the regional health planning issue is yet to be completely resolved.

Drs. Michael Aronoff, John Young, and Jack Cooper have been actively involved in the malpractice insurance program and its legislation. The membership of the state and the county societies are in their debt.

The Johnson County delegates have been most responsive to "extra duty" requests, and we responded with a full complement of delegates to the special meeting of the House of Delegates, called by the Council on February 22, 1976.

LEWIS G. ALLEN, M.D., *Councilor*

DISTRICT 4

On December 29, 1975, KMS President John W. Travis and President-Elect Emerson Yoder held the Executive Committee meeting followed by a general meeting with the Southeast Kansas Medical Society in Coffeyville. This meeting was conducted by Dr. W. H. Campbell, President of the Southeast Kansas Medical Society.

On February 27, 1976, Dr. James A. Loeffler, of Wichita, representing the KMS Committee on Professional Liability, held a panel discussion at the invitation of Mrs. T. Yaghmour, President of the Crawford County Medical Auxiliary. All adjoining county medical societies were invited to this meeting.

GEORGE W. POGSON, M.D., *Councilor*

DISTRICT 5

Several new physicians have moved into District 5, to the cities of Junction City and Manhattan.

One peer review was carried out by the committee. The decision was unanimous and this information was relayed to the Blue Shield office.

There has been a good attendance at the House of Delegates meeting regarding the professional liability question. There was also a representative attendance at the earlier KACI meeting.

Legislative support has been urged upon all members of District 5, with reference to malpractice and medical legislation before the Kansas Legislature.

RICHARD H. O'DONNELL, M.D., *Councilor*

DISTRICT 6

The Shawnee County Medical Foundation, organized by the county medical society, is now a functioning administrative unit within the Medical Society. The Foundation has devoted most of its time and energies toward developing a medical education program in conjunction with the K.U. Medical Center to help in regional training of interns and residents. This includes training programs in internal medicine, pediatrics, thoracic surgery, obstetrics and gynecology, and orthopedics. The Foundation Education Committee has also developed ongoing postgraduate medical education programs for practicing physicians and paramedical personnel in the greater Shawnee County area.

The Shawnee County Medical Society has been working to improve regional and local emergency health care service, particularly in trying to improve the medical ambulance system and the training and development of emergency medical intensive care technicians, to improve on-the-spot aid to emergency victims. A telemetry communication system between the emergency scene and the hospital emergency physicians has also been developed. The Insurance Committee has done extensive investigation and study of a possible health maintenance program insurance through Blue Cross-Blue Shield. After a year's study, this plan was rejected by the county physicians.

We wish to take this opportunity to express our sincere gratitude and support to Dr. John W. Travis, for his outstanding and dynamic leadership as President of the Kansas Medical Society. We are especially pleased with his leadership in the field of malpractice legislation considered by Kansas Legislature.

RICHARD MEIDINGER, M.D., *Councilor*

DISTRICT 7

District 7 now has 42 physicians, by adding an internist, a pediatrician, a psychiatrist, and an obstetrician during the past year.

ROYAL A. BARKER, M.D., *Councilor*

DISTRICT 8

District 8 has been privileged within the past year to add two physicians to the Cowley County Medical Society. Dr. Robert W. Howard joined us in September, and is practicing the specialty of ENT in Arkansas City. Dr. Daniel B. Cudnik is practicing general surgery at the Snyder Clinic, Winfield.

The KUMC circuit course has been well attended by Cowley County physicians, as well as by physicians from nearby areas, including Oklahoma. We have been very pleased to see doctors from Oklahoma attending the sessions with us.

The local chapter of the American Cancer Society conducted a pap smear clinic in January, examining patients one weekend in Winfield and the following weekend in Arkansas City. The program was very well received, with 600 women being examined over the two weekends. The effort was termed an outstanding success, and it is hoped that the clinic will be continued in the future.

JAY L. RICHARDSON, M.D., *Councilor*

DISTRICT 9

District 9 met on October 20, 1975, in Salina, with KMS President John W. Travis as speaker. There were 48 members present. The format of the meeting was a discussion of upcoming legislation, as well as general KMS business.

Six physician groups in north-central Kansas have organized to participate in the K.U. Preceptor Program for the months of March and May. The groups participating are Abilene, Beloit, Belleville, Concordia, Mankato, and Minneapolis. A somewhat new concept is being used, in that the groups will meet twice a month during this period to discuss any problems or cases, in an attempt to make the program as meaningful as possible to both the preceptee and the preceptor.

The community of Lincoln has received a National Health Service grant, to aid them in obtaining additional physician coverage through the National Health Service Corporation.

Three new physicians have begun their practice in our district during the past year. They are: Dr. W. Reese Baxter and Dr. Louis Forester, both in family practice in Salina; and Dr. Muhammad M. Butt, practicing surgery in Concordia.

KERMIT G. WEDEL, M.D., *Councilor*

DISTRICT 10

There has been no activity in District 10 upon which to make a report.

JOHN B. JARROTT, M.D., *Councilor*

DISTRICT 11

The Wichita Branch of the University of Kansas Medical Center has completed a very successful and rewarding second year. A second class of 26 medical students began their clinical services in Wichita in January 1976. There have been a number of outstanding additions to the faculty of the Branch in the various specialty and sub-specialty areas. The growth of this major medical undertaking in Kansas continues to be harmonious, with cooperation and participation of the Branch faculty, various hospital administrators and medical teaching staffs, and the county medical society representatives under the umbrella of the Medical Education Association. Dr. D. Cramer Reed, Dean of the Kansas University Medical Center, College of Health Sciences, Wichita Branch, is to be commended for his coordination and guidance in this fine work.

The Wichita-Sedgwick County Emergency Medical Services project has completed its first year of service. There are eight EMT staffed stations and ten emergency vehicles located at strategic geographic areas in the city and county. This service was developed in response to recommendations by the Emergency Medical Services Council, formed at the request of the Sedgwick County Medical Society. A great deal of the credit for insuring its establishment and operational success in the fluctuating political environment should go to Dr. Warren Meyer, president of the Sedgwick County Board of Health, and its community representatives.

Dr. Warren Meyer was elected Second Vice-President of the Kansas Medical Society last May.

We are pleased with Governor Bennett's appointment of Dr. William Swisher to the Kansas State Board of Healing Arts. Dr. Swisher will need a great deal of our support in the anticipated expanded role of the board in dealing with the malpractice crisis, and the various bills relating to health care matters.

The Legislative Committee, under the able leadership of Dr. Tom Gray, continues to meet weekly during the legislative session and coordinates its activities with the KMS Legislative Committee, as well as the members of the Commission on Professional Liability. Our membership is appreciative of the great amount of time and energy devoted to the attempted legislative solutions to the malpractice problems by Drs. Gregg Synder, Jim Loeffler, Dan Roberts, William Swisher, Robert Purves, and others too numerous to mention.

The MSSC Auxiliary has been actively working with the Legislative Committee and with members of the KMS Medical Liability Commission. The MSSC Auxiliary has also been active in solicitation of funds for the Medical Careers Loan Fund which is maintained by the Medical Society and the MSSC Auxiliary. Seven applications for financial assistance have been approved for the school year of 1975-1976. To date, a total of 26 students have received financial assistance from the loan fund for study in the following areas: 22 medical students, 3 allied health school students, and 1 deceased physician's child who did not study medicine. Some $45,000 in loans has been approved since the fund was established.

The MSSC has taken an active role in the development of the 22 county health systems agency of southeast Kansas. Sedgwick County comprises one of four subareas of this HSA. Dr. Tom Gray and Dr. Hugo Weber have been named to represent MSSC on the Board of Directors of the Sedgwick County subarea HSA, and Dr. Tom Gray will also serve as a member of the Board of the 22-county HSA for southeast Kansas.

Another rapidly expanding, successful activity of this district has been the MSSC owned and operated physicians' paging system. This is self-supporting financially and is being utilized by 225 members of our society.

These activities and many others have created a positive image of the Wichita medical community, and apparently are a very strong element in attracting new physicians to our community. In the 18 months between January 1, 1974, and July 1, 1975, 54 new physicians have established practice in Wichita. Although 24 physicians' offices closed in Wichita during this same period, the total increase of 30 doctors in 18 months is significant.

IVAN E. RHODES, M.D., *Councilor*

DISTRICT 12

District 12 has had no serious problems during the past year. We still suffer from lack of physicians; every time we gain one, we seem to lose another one or two.

The southern half of our district holds excellent, well attended meetings in Harper. They invite outside speakers, and the Medical Auxiliary meets with the physicians.

The northern half of our district meets in Pratt. The meetings are usually held in conjunction with the Pratt Hospital staff. Our members feel that they have been unable to fully participate in the KMS affairs because of undue pressures of patient care.

VERNON W. FILLEY, M.D., *Councilor*

DISTRICT 13

During the past year, the physicians of the Central Kansas Medical Society have welcomed only one new area physician. He is Dr. Narongsak K. Thada, an internist, practicing in Hays. With the retirement of Dr. Millard E. Schulz, and the impending retirement of Drs. F. N. White and W. J. Pettijohn, all of Russell, our physician-patient ratio has sufferred a setback.

Kansas Department of Health and Environment, in conjunction with KUMC, has approved a grant to fund a program of innovative methods of health care delivery in rural areas. The pilot project will involve our district, as well as Saline and Ottawa counties.

A consortium composed of Ellis County Medical-Dental Association, Fort Hays-Kansas State College, St. Anthony Hospital, Hadley Regional Medical Center, and the Central Kansas Medical Society has been formed. This group, known as the High Plains Medical Education Committee, has received approval to offer AMA accredited continuing educational experiences.

The third biennial Health Care Conference was held in Fort Hays, on April 10.

L. William Halling, M.D., *Councilor*

DISTRICT 16

For the second straight year, the physician population of the Northwest Kansas Medical Society has shown an improvement. Additions to the medical community have been Dr. John R. Neueschwander, Hoxie; Salved Faye, Oakley; and Lloyd O. Long, Goodland. They are a welcome addition to the area.

In October, the members of the District met with Dr. John W. Travis, President of the Kansas Medical Society, for a dinner meeting at the Ramada Inn in Colby.

The weekend of December 6 saw the District hosting the quarterly meeting of the Kansas Academy of Family Practice. Even though the country roads were almost impassable due to the November 19 blizzard, the pheasant hunt that preceded the meeting came off, and the members taking to the field each managed to get a bird.

Floyd L. Smith, M.D., *Councilor*

DISTRICT 17

The year 1975 saw southwest Kansas expanding its health care facilities and adding several new physicians and health care professionals. We lost Dr. Norman G. Marvin, Syracuse, to KUMC, and Dr. James F. Greenwood, Ulysses, also moved from the area. The following physicians have been added: Dr. Z. Arroyo, Scott City; Drs. Miller, Macy, Kalbec and Artiles, Garden City. The number of medical student, intern and resident trainees has also been increased. There is one new physician's assistant and one new nurse clinician, both full time in our district.

The St. Catherine's Hospital, Garden City, completed its multi-million-dollar expansion, which almost doubled its bed capacity, updated surgery suites, provided a new emergency care unit, and an inpatient psychiatric facility. The new Medical Specialists' Building, across the street from the hospital, is also nearing completion and should be operational in 1976.

The District held four regular meetings in 1975, and two special meetings. One special meeting concerned the licensure and supervision of physicians from Vietnam. A supervisory policy was established for all paramedical assistants in our district, such as the physician's assistants, nurse clinicians, and others.

Our guest at the 1975 annual meeting was Dr. John Blank, President of the Kansas Medical Society, who discussed AMA policy, financial structure, and foreign licensure. We also held two meetings on malpractice and malpractice claims-made policies; two meetings with legislators and attorneys relative to PSRO, malpractice legislation, insurance, and licensure.

This past year has shown all of us in southwest Kansas that as medicine and health care systems grow, they become more complex, more time consuming—but somehow also more gratifying. We are pleased with our accomplishments and progress in District 17.

Max E. Teare, M.D., *Councilor*

DISTRICT 18

Our district meeting was held on February 25, 1976, at the Ottawa Country Club. It was attended by physicians from Wellsville, Lawrence, Ottawa, and Garnett. Dr. John W. Travis, KMS President, gave us a synopsis of the state society activities during the year and a detailed legislative update. His address was followed by a question-and-answer period and an in-depth discussion of the health care stabilization fund.

District 18 wishes to express our sincere appreciation to Dr. Travis and the KMS staff for their outstanding leadership.

Glenn Madsen, M.D., *Councilor*

Resolutions

To Be Introduced at First House of Delegates, May 2, 1976

REFERENCE COMMITTEES

REFERENCE COMMITTEE A

William C. Swisher, M.D., Wichita, *Chairman*
F. G. Bichlmeier, M.D., Kansas City
Milo G. Sloo, M.D., Salina
M. C. Spencer, M.D., Topeka
W. J. VonRuden, M.D., Hutchinson

REFERENCE COMMITTEE B

Max E. Teare, M.D., Garden City, *Chairman*
H. F. Coulter, M.D., Shawnee Mission
D. D. Decker, M.D., Halstead
J. A. Loeffler, M.D., Wichita
W. R. Lentz, M.D., Topeka

An asterisk following the resolution number indicates that those resolutions require a change in the Constitution and By-Laws, and a two-thirds majority vote of the House of Delegates is needed.

RESOLUTION NO. 76-1

REFERENCE COMMITTEE A

(Submitted by the Commission on Education)

State Scientific Program Committee

WHEREAS, The AMA requirements for presenting Category I credit programs require a formalized committee with ongoing membership and provisions for input and evaluation; therefore be it

Resolved, That the Kansas Medical Society establish a State Scientific Program Committee under the auspices of the Commission on Education for the purpose of planning and developing annual scientific programs worthy of Category I credit; and be it further

Resolved, That this committee work with established organizations presenting Category I credit programs, including the University of Kansas Medical Center and the Wichita Branch.

RESOLUTION NO. 76-2

REFERENCE COMMITTEE A

(Submitted by the Commission on Education)

Notification of CME Requirements

WHEREAS, The Kansas Medical Society now has continuing medical education requirements for membership; and

WHEREAS, The Kansas State Board of Healing Arts now requires evidence of continuing medical education for relicensure; and

WHEREAS, The relicensure requirements are to be identical to the Kansas Medical Society requirement for membership; and

WHEREAS, The Kansas Medical Society membership has a three (3) year reporting period to fulfill these requirements; and

WHEREAS, Some Kansas Medical Society members may be poorly informed on these requirements and need periodic reminders on this important issue; therefore be it

Resolved, That the Kansas Medical Society send notices every six (6) months (to include yearly mailing of the CME Record Booklet) to its members, reminding them of these requirements and bringing them up to date on any new changes.

RESOLUTION NO. 76-3

REFERENCE COMMITTEE A

(Submitted by the Commission on Education)

Category I Credit for Scientific Programs

WHEREAS, The Kansas Medical Society has adopted a continuing medical education requirement for continued membership; and

WHEREAS, This same requirement has been adopted by the Kansas State Board of Healing Arts for relicensure; and

WHEREAS, The Kansas Medical Society provides benefits to its members; therefore be it

Resolved, That the Kansas Medical Society make a concerted effort to work with the organizations

accredited for Category I credit in their respective cities to provide Category I credit for scientific programs at the annual sessions of the Kansas Medical Society and other meetings as appropriate.

RESOLUTION NO. 76-4

Reference Committee A

(Submitted by the Commission on Health Services)

Emergency Medical Services

Whereas, There has been federal involvement in emergency medical services; and

Whereas, The Kansas Medical Society has been actively involved in meeting with the Department of Health and Environment concerning this program; therefore be it

Resolved, That the Kansas Medical Society and the Kansas Hospital Association continue to monitor and develop emergency medical services programs in Kansas.

RESOLUTION NO. 76-5

Reference Committee A

(Submitted by the Wyandotte County Medical Society)

Spine Deformity Screening

Whereas, Spine deformity, especially adolescent idiopathic scoliosis, is relatively common in children, and because the children are often asymptomatic in the early stages they are often overlooked when preventative treatment can be most effective; and

Whereas, It is proposed that universal screening of school children, ages 10 through 13, be performed by the school nurse or physical education instructor under school nurse supervision; and

Whereas, A definite proposal for this screening has been developed and is attached to this resolution; therefore be it

Resolved, That the Kansas Medical Society endorses and supports a screening program to determine spine deformity in school age children being instituted in the public schools of Kansas, using the criteria that has been developed and is attached as a part of this resolution.

Proposal for Spine Deformity Screening

It is proposed that universal screening of school children ages 10 through 13 be performed by the school nurse or physical education instructor under the school nurse's supervision. The student is observed in three standing positions: posterior upright, forward bending, and lateral upright. Boys are clothed in gym shorts and can be examined in the gymnasium. Girls are examined in gym shorts in their locker room. The examination requires approximately 30 seconds per student.

If any hint of lateral curvature is detected it should be recommended to the parents that the child be examined by the family primary care physician. It is recommended that this examination include a standing 14 x 17-inch AP x-ray of the spine. Curves are measured by the Cobb technique (details available upon request). If the examiner is not comfortable with the measurement technique, mail consultation may be obtained.

Patients with curves less than 15-20 degrees should be alerted to the possibility of progression. Parents may be taught to examine the patient in the forward bending position at three-month intervals and return if they suspect progression. If the curvature is greater than 15-20 degrees, consultation with an orthopedic surgeon is recommended.

If the thoracic kyphosis (round back) or lumbar lordosis (sway back) is increased, then a standing 14 x 17-inch lateral x-ray of the thoracic or lumbar spine should be obtained. If there appears to be excessive kyphosis or lordosis, consultation is also recommended.

A school screening program has been in effect in Delaware for several years and reportedly has been successful in nearly eliminating the need for surgical treatment of idiopathic scoliosis. During the past year, 210,000 (75%) of vulnerable school age children were screened in Minnesota, with approximately 7 per cent being referred to the primary care physician. Overall, 0.1 per cent of these were found to require treatment. In Kansas, 11,924 vulnerable school age children were screened last year by school nurses, and 3.8 per cent were referred to the primary care physician.

Universal scoliosis screening of school children, ages 10 through 13, with followup as recommended, should nearly eliminate the need for surgical treatment of idiopathic scoliosis. An added benefit is that other less common spine deformities may be detected at a more optimum time for treatment.

RESOLUTION NO. 76-6

Reference Committee A

(Submitted by Commission on Sociology and Economics)

AMA-CPT

Resolved, That the Kansas Medical Society pur-

chase for each member (at the Approximate Cost of $4.00 per copy) a copy of the American Medical Association Current Procedural Terminology No. 3; and be it further

Resolved, That the Kansas Medical Society urge its members to utilize the five-digit code contained in the AMA-CPT for all third-party claims.

RESOLUTION NO. 76-7*

REFERENCE COMMITTEE A

(Submitted by the Southeast Kansas Medical Society)

Formation of New Council District

Resolved, That Section 8.4 *et seq.* of the By-Laws be amended by the addition of a new Council district comprised of the following counties: Allen, Chautauqua, Elk, Montgomery, Neosho, Wilson.

RESOLUTION NO. 76-8*

REFERENCE COMMITTEE A

(Submitted by the Speaker of the House of Delegates)

Special Assessments

Resolved, That the By-Laws be changed by adding in Section 2.3: "Special assessments may be levied as needed. Request for special assessments will be referred to the Council for study, whereupon the Council shall make a recommendation to the House of Delegates for final action. All special assessments are mandatory unless otherwise specified."

RESOLUTION NO. 76-9*

REFERENCE COMMITTEE A

(Submitted by the Speaker of the House of Delegates)

Nominations

Resolved, That the By-Laws be amended by adding in Section 6.6, after the phrase "offices of president-elect, first vice president, secretary, treasurer," the words, "speaker of the House of Delegates, vice-speaker of the House of Delegates."

RESOLUTION NO. 76-10*

REFERENCE COMMITTEE A

(Submitted by Nominating Committee, John N. Blank, M.D., Chairman)

Elective Offices

WHEREAS, The Kansas Medical Society needs involvement by as many members as is possible in the responsible positions in the Society; and

WHEREAS, It would seem appropriate that a member can assume only one position adequately; and

WHEREAS, The House of Delegates of the Kansas Medical Society is an integral part of the Kansas Medical Society; therefore be it

Resolved, That a member of the Kansas Medical Society can hold only one elective office in the Kansas Medical Society and/or the House of Delegates of the Kansas Medical Society.

RESOLUTION NO. 76-11

REFERENCE COMMITTEE A
(On Consent Calendar)

(Submitted by Commission on Society Organization)

Salary of President

Resolved, That the salary of the President of the Kansas Medical Society be increased to $18,000 per year plus expenses.

RESOLUTION NO. 76-12*

REFERENCE COMMITTEE A

(Submitted by Committee on Constitution and By-laws)

Reapportionment of House of Delegates

WHEREAS, The present composition of the House of Delegates provides disproportionate representation to the several disciplines of this society; and

WHEREAS, Granting permanent membership in the House of Delegates to past presidents of the Society adds materially to the disproportion; and

WHEREAS, The concept of "one man, one vote" is almost universally accepted in parliamentary bodies; therefore be it

Resolved, That delegates representing specialty sections be deleted from the voting membership of the House; and be it further

Resolved, That automatic membership in the House be granted only to those past presidents of the five preceding years; and be it further

Resolved, That elected delegates from all component societies be chosen by the same criteria, *i.e.,* one delegate for each twenty (20) members or major fraction, with one delegate providing minimally from each component society; and be it further

Resolved, That the By-laws be amended as follows:

5.1 Composition

The House of Delegates should be composed of delegates selected by the component societies, by the elected councilors and in their absence, their alternates, by the past presidents of the immediate past five years, and the elected officers of this Society. Members of the Society may attend plenary sessions and others may attend upon invitation of the Speaker.

5.21 Component Societies

Each component society having made its annual report and paid its assessments as provided in this Constitution and By-laws shall elect one (1) delegate and one (1) alternate to the House of Delegates for each twenty (20) members and major fraction thereof. Each component society shall be entitled to at least one (1) delegate and one (1) alternate.

5.22 (Delete)

5.23 Delete the Words, "and specialty section," in line 1.

RESOLUTION NO. 76-13*

Reference Committee A

(Submitted by the Speaker of the House of Delegates)

Quorum

Resolved, That the By-Laws be amended by adding in Section 5.4111,3 the words, "An official quorum for the Fall House of Delegates meeting will be twenty-five per cent (25%) of the delegates or their alternates"; and be it further

Resolved, That Section 5.45 be amended by adding the words, "Twenty-five per cent (25%) of the delegates or their alternates shall constitute a quorum for the Fall House of Delegates meeting and all special sessions."

RESOLUTION NO. 76-14*

Reference Committee A

(Submitted by Commission on Society Organization)

House of Delegates Quorum

Whereas, Increasing difficulty is encountered in securing a quorum for the fall and special meetings of the House of Delegates; therefore be it

Resolved, That section 5.45 of the By-laws be amended to read: Thirty-five per cent (35%) of constitutionally provided delegates or their respective alternates shall constitute a quorum of the House of Delegates at any regular or special meeting.

RESOLUTION NO. 76-15

Reference Committee B

(Submitted by the Legislative Committee)

Chiropractic

Resolved, That the Kansas Medical Society study possible chiropractic misuse of x-rays; and be it further

Resolved, That the Kansas Medical Society reaffirm its opposition to any expansion of the scope of chiropractic privileges.

RESOLUTION NO. 76-16

Reference Committee B

(Submitted by the Legislative Committee)

Medical Records

Resolved, That the Kansas Medical Society secure a legal opinion on the ramifications of a proposed law requiring copies of medical records to be sent to the patient or his attorney upon request; and be it further

Resolved, That this legal opinion determine what parts of the medical record must be forwarded to the patient or attorney; and be it further

Resolved, That this opinion be sent to all members of the Kansas Medical Society, and a report made to the 1976 Interim House of Delegates meeting.

RESOLUTION NO. 76-17

REFERENCE COMMITTEE B

(Submitted by the Legislative Committee)

Brand Exchange

Resolved, That the Pharmacy Liaison Committee be directed to meet with representatives of the Kansas Pharmaceutical Association to examine the proposed brand exchange program advocated by KPA; and be it further

Resolved, That the Pharmacy Liaison Committee submit a report to the 1976 Interim House of Delegates on their findings.

RESOLUTION NO. 76-18

REFERENCE COMMITTEE B

(Submitted by the Johnson County Medical Society)

Opposition to Brand Exchanges

WHEREAS, Drug additives used as diluents, fillers, emulsifiers, preservatives, binders, encapsulators, or stabilizers produce on occasion intense allergic responses apart from the drug itself; and

WHEREAS, Chemically identical drugs due to differences in physical properties, formulation, or unknown factors have not uniformly produced the same biological responses due to differences in bioavailability; and

WHEREAS, Patients sometimes find themselves taking more than one kind of medication bearing a close resemblance to one another which contributes to confusion and maladministration; and

WHEREAS, Bioavailability, dependability, quality, and formulation consistency may distinguish some brand name drugs from their proprietary counterpart, and brand named drugs emphasize external recognition and identification characteristics; and

WHEREAS, The practice of medicine is an art that sometimes formulates an individual regime of therapy based upon a knowledge of allergic nuances, critical bioavailability, confusion in the identification of drugs, and idiosyncratic reactions; and

WHEREAS, Neither the training of a pharmacist, his ascribed responsibilities, or the written prescription places the pharmacist in a secure position to substitute another product for the physician's expressed choice without imparting a risk to the patient; therefore be it

Resolved, The Kansas Medical Society reaffirm the position that physicians must retain final jurisdiction over their prescriptions if they are to continue to practice the art of medicine in a manner best capable of serving the patient's welfare; and be it further

Resolved, The Kansas Medical Society reaffirm its opposition to any form of brand exchange or substitution without the physician's authorization; and be it further

Resolved, The Kansas Medical Society inform Senator Bert Chaney and the Senate Public Health and Welfare Committee of this position.

RESOLUTION NO. 76-19

REFERENCE COMMITTEE B

(Submitted by Saline County Medical Society)

Special Fund for Legal Malpractice Action

WHEREAS, The majority of malpractice claims against physicians are without merit and many suits which are filed are frivolous, malicious or otherwise constitute "abuse of process"; and

WHEREAS, The average physician's insurance will not cover the expenses of a countersuit and he may be unable or unwilling to finance such action by himself; and

WHEREAS, The real possibility of such action by the physician in such cases will be a deterrent to such action; therefore be it

Resolved, That the Kansas Medical Society assess its membership $50.00 per member, one-half to be collected now and the second half as needed, for the purpose of reviewing malpractice claims for frivolous cases that might lead to successful countersuits and to provide legal counseling, friend of the court and other appropriate actions to such members of the society that may solicit such assistance for meritorious actions; and be it further

Resolved, That such proceedings and funds be managed by an ad hoc committee appointed and directed by the Executive Committee of the Society.

RESOLUTION NO. 76-20

REFERENCE COMMITTEE B

(Submitted by the Anderson County Medical Society)

Professional Liability Information

WHEREAS, The filing of a professional liability suit results in a disruption of the normal doctor-

patient relationship; and

WHEREAS, There is evidence that this animosity is extended to the medical profession in general; and

WHEREAS, There are many cases of the same person filing suits against more than one doctor and for any and all succeeding doctors providing care of this person; and

WHEREAS, The filing of a suit makes this action public knowledge; and

WHEREAS, There exists at least one central source where the names, addresses, and other identifying information of these plaintiffs are available (St. Louis Index Bureau, 1016 Locust, St. Louis, Missouri); and

WHEREAS, This information could be of great beneficial value to the individual members of the Kansas Medical Society; therefore be it

Resolved, That the Kansas Medical Society provide to its members complete identifying information on all plaintiffs in professional malpractice suits filed in Kansas no later than 30 days post filing date; and be it further

Resolved, That every consideration be given to expanding this list to include any plaintiff in a medical practice suit filed in states immediately adjacent to Kansas.

RESOLUTION NO. 76-21

REFERENCE COMMITTEE B

(Submitted by Commission for Professional Liability and Medicolegal Affairs)

Special Assessment

Resolved, That each active, full-dues paying member of the Kansas Medical Society be assessed $50 to support the continuation of professional liability studies and legislative initiatives.

RESOLUTION NO. 76-22

REFERENCE COMMITTEE B

(Submitted by the Commission on Health Services)

Juveniles

WHEREAS, More than one-half of the crimes are committed by juveniles and it appears there is a real drop-off when the juveniles reach the age of 18 years of age; therefore be it

Resolved, That consideration be given to lowering the age of responsibility to 16 years of age, to coincide with the age for obtaining a driver's license.

RESOLUTION NO. 76-23

REFERENCE COMMITTEE B

(Submitted by Southeast Kansas Medical Society)

P.L. 93-641

WHEREAS, P.L. 93-641 fixes Health Service Area (HSA) as a planning body for health care; and

WHEREAS, HSA bylaws incorporates that HSA will cooperate and aid in implementation of the programs of national interest as HEW may direct; therefore be it

Resolved, That the Kansas Medical Society House of Delegates work for repeal of this law; and be it further

Resolved, That the Kansas Medical Society inform all physicians of the provisions of this law, as it seems to make it possible that this is all HEW needs to control all persons and institutions associated with health care.

RESOLUTION NO. 76-24

REFERENCE COMMITTEE B

(Submitted by the Committee on Health Resources Planning)

P.L. 93-641

WHEREAS, P.L. 93-641 may drastically affect the medical care for our patients while in a health care institution; and

WHEREAS, The formation of the components of P.L. 93-641 is under active organization; and

WHEREAS, The physicians in Kansas have a deep commitment for the care of their patients and represent them in the health care delivery system; therefore be it

Resolved, That the Kansas Medical Society and its members shall continue to participate in the best interests of the people of Kansas toward the development and implementation of P.L. 93-641.

RESOLUTION NO. 76-25

REFERENCE COMMITTEE B

(Submitted by John W. Travis, M.D., President)

Healing Arts Board

Resolved, That the Legislative Committee of the Kansas Medical Society be directed to prepare a legislative recommendation that would reorganize the Kansas State Board of Healing Arts to reflect proportionate representation of the four diciplines licensed by the Board; and be it further

Resolved, That the Legislative Committee report its recommendations to the 1976 Fall House of Delegates.

RESOLUTION NO. 76-26

REFERENCE COMMITTEE B

(Submitted by the Kansas Chapter, American Society of Internal Medicine)

Primary Care

WHEREAS, The original Millis report, that originated the term "primary care" predicted confusion; and

WHEREAS, The American Medical Association House of Delegates and AMA testimony before Congressional committees used the term "primary care *specialties";* and

WHEREAS, There appears to be confusion as to the meaning of "primary care and primary care physicians"; and

WHEREAS, Primary care is a *function, not a discipline,* provided by all physicians but most often by internists, pediatricians, general practitioners, obstetricians, gynecologists and family practitioners; therefore be it

Resolved, That the medical specialties of family practice, internal medicine, pediatrics, and obstetrics/gynecology be recognized formally as major components of the profession which, together with general practice, provide most primary medical care to the American public; and be it further

Resolved, That the Kansas Medical Society officials be urged to communicate this resolution to the Kansas State Legislature.

RESOLUTION NO. 76-27

REFERENCE COMMITTEE B

(Submitted by the Kansas Chapter, American Society of Internal Medicine)

Primary Care

WHEREAS, State and federal laws requiring medical schools to establish an identifiable administrative unit to provide clinical instruction in family medicine or primary care invade the academic integrity of the instruction; and

WHEREAS, Such laws eliminate the opportunity for decision by the institution as to how best to further competence in instruction in primary care; and

WHEREAS, Primary care is a function, not a discipline provided by all physicians but most often by internists, pediatricians, general practitioners, obstetricians, gynecologists and family practitioners; therefore be it

Resolved, That the Kansas Medical Society oppose state legislation requiring the establishment of an identifiable administrative unit to provide clinical instruction in family medicine or primary care.

RESOLUTION NO. 76-28*

REFERENCE COMMITTEE B
(On Consent Calendar)

(Submitted by Commission on Society Organization)

Rules of Order

WHEREAS, There is no publication enitled "Sturges' Rules of Order, Revised"; and

WHEREAS, This Society should have no doubt as to what procedural rules guide it; therefore be it

Resolved, That 12.0 (Rules of Order) be amended to read: "Deliberations of this Society and its subsidiary Council, Sections, Commissions and Committees shall be governed by these By-laws, and when not otherwise specified by the provisions of Sturges' Standard Code of Parlimentary Procedure."

RESOLUTION NO. 76-29

REFERENCE COMMITTEE B
(On Consent Calendar)

(Submitted by Commission for Society Organization)

Constitution and By-laws

Resolved, That the Committee on Constitution

and By-laws make a detailed study of the By-laws and prepare a report containing any possible recommendations for revision of the By-laws to be submitted to the 1977 Annual Session of the House of Delegates.

RESOLUTION NO. 76-30

REFERENCE COMMITTEE A

(Submitted by Kansas Orthopedic Society)

Procedural Terminology and Coding

WHEREAS, The present Kansas Relative Value Studies were published ten years ago (1966) and were formulated some time before that; and

WHEREAS, There has been a marked increase in the numbers and types of medical and surgical procedures, making this KRVS schedule very inadequate and outdated; and

WHEREAS, With the increasing number of procedures and increasing coverage of payment for same by various agencies it is becoming increasingly difficult to complete claim request forms regarding same; therefore be it

Resolved, That the Kansas Medical Society accept and adopt as its official document the latest current procedural terminology of the American Medical Association for use by physicians of Kansas; and be it further

Resolved, That the Kansas Medical Society request that Blue Shield and all other fiscal agents be requested to convert to this system as soon as possible.

AMA House of Delegates

(Continued from page 144)

establishment of eight specific councils was sent to the Board for preparation of details and presentation at the 1976 Annual Convention. The House also voted to eliminate all other existing councils and committees (except the section councils) within six months if it approves the Board's report on the eight councils. The eight councils would be medical education, medical service, long range planning and development, continuing medical studies (scientific assembly), scientific affairs, constitution and bylaws, legislation, and judicial.

■ The House accepted the Council recommendation to abolish the office of AMA Vice President. It also established a line of succession in case of death, disability, or resignation of the president. He would be succeeded by the president-elect, who would continue to serve during his own elected term. The speaker of the House would assume the presidency if the office became vacant while the office of president-elect was also vacant.

■ The House actions on the Report of the Council on Long Range Planning and Development will be studied by the Council on Constitution and Bylaws, and presented at the 1976 Annual Convention. Necessary changes in the bylaws will require a two-thirds vote at that time.

Three major awards were presented by the AMA at the Clinical Session. Claude E. Welch, M.D., Boston, an AMA delegate and past president of the Massachusetts Medical Society, received the Distinguished Service Award; Francis E. (Frank) West, M.D., San Diego, received the $5,000 Dr. Rodman E. Sheen and Thomas G. Sheen-Dr. Benjamin Rush Bicentennial Award for Citizenship and Community Service; and Paul G. Rogers (D-Fla.), chairman of the House Public Health and Environment Subcommittee, received the Citation of a Layman for Distinguished Service.

The next Annual Scientific Session will be held at Dallas, Texas, June 26-July 1, 1976.

GEORGE E. BURKET, JR., M.D.,
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AMA Delegates
ALEX SCOTT, M.D., Junction City
LEW W. PURINTON, M.D., Wichita
Alternate AMA Delegates

Woman's Auxiliary to the Kansas Medical Society

May 2-5, 1976, Salina

Sunday, May 2

12:00-4:00 Registration—Reservations
Hospitality Room—AMA-ERF Display
Hilton Inn, Room 168-170

6:30 **Dinner and Dance**
Salina Country Club

Monday, May 3

7:30 **"Early Bird" Breakfast**
Medical Society and Auxiliary
Hilton Inn, Dover & Portsmouth Rooms
Michael Levis, M.D., Member AMPAC Board of Directors

8:00-11:00 **Women's Golf**
Municipal Golf Course
Women's Tennis
Salina Country Club

8:30-4:00 Registration—Reservations
Marymount College
Hospitality
Hilton Inn, Room 168-170

9:00 **Pre-Convention Board of Directors Meeting**
Open to ALL Auxiliary members
Marymount College, Ballroom
Mrs. Emerson Yoder, President Woman's Auxiliary to KMS Presiding

11:30 **Lindsborg Tour and Luncheon**
Buses boarding at Marymount Fine Arts Bldg. and at Hilton Inn. (The buses will make a 30-min. stop at the home of Dr. and Mrs. S. C. McCrac, 555 Guernsey, to view cacti.) Husbands are invited.

1:00 **Luncheon—Honoring Past State Presidents and State Officers**
Tour of Sandzen Art Gallery and Old Mill Muscum will follow the luncheon. Time will be allowed for shopping.

4:30 Buses boarding for return trip to Salina.

6:30 **Sports Banquet** (wives are invited)
Salina Country Club

Tuesday, May 4

8:30-4:00 Registration—Reservations
Marymount College
Hospitality
Hilton Inn, Room 168-170

8:30 Continental Breakfast Available

9:00-12:00 **General Session**
Marymount College

12:30 **Social Hour and Luncheon**
Salina Country Club
Ludel Sauvageot, Editor "M.D.'s Wife"

1:30 Special Program
"Women in Song and History"
Folksinger Joan Bayles, Fredonia
Patchwork Conference
Marymount College

5:30 **K.U. Medical Alumni Reception**

7:00 **President's Banquet—Kansas Medical Society**
Salina Country Club
Archie R. Dykes, Ed.D., Chancellor University of Kansas Speaker

Wednesday, May 5

9:00 **Post-Convention Board of Directors Meeting**
Continental Breakfast
Salina Country Club
Mrs. Clair Cavanaugh, President Woman's Auxiliary to KMS Presiding

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Guest Faculty:

KENNETH BLUM, Ph.D., The University of Texas Health Science Center, San Antonio.
SANFORD J. FEINGLASS, Ph.D., Institute for Social Concerns, San Francisco, California.
MEREL H. HARMEL, M.D., Duke University Medical Center, Durham, North Carolina.
ELLIOTT V. MILLER, M.D., Harvard Medical School, Boston, Massachusetts.
JOHN F. RYAN, M.D., Harvard Medical School, Boston, Massachusetts.
ROBERT L. WILLENKIN, M.D., University of California, San Francisco.
HOWARD L. ZAUDER, M.D., Ph.D., University of Texas Health Science Center, San Antonio.

Subjects to be discussed will include: POSTGRADUATE EDUCATION AND RECERTIFICATION; RECENT MEDICO-LEGAL PROBLEMS IN ANESTHESIA; SUBSTANCE ABUSE BY PHYSICIANS; THE NURSE ANESTHETIST-ANESTHESIOLOGIST; MONITORING; THE NATURE OF DECISION MAKING IN THE OPERATING ROOM; RECENT DEVELOPMENTS IN MECHANICAL VENTILATORY MANAGEMENT; and RECENT DEVELOPMENTS IN PEDIATRIC ANESTHESIA.

Registration Fee: $200.00 including course materials.

May 6 and 7, 1976 **CARDIAC ARRHYTHMIAS**

Guest Faculty:

S. SERGE BAROLD, M.B., University of Rochester School of Medicine and Dentistry, New York.
EDWARD H. FISCHER, M.D., Trinity Lutheran Hospital, Kansas City, Missouri.
LEONARD S. GETTES, M.D., University of Kentucky Medical Center, Lexington.
THOMAS N. JAMES, M. D., University of Alabama Medical Center, Birmingham.
WILLIAM P. NELSON, M.D., Fitzsimons Army Medical Center, Denver, Colorado.
BENJAMIN J. SCHERLAG, Ph.D., University of Miami School of Medicine and Veterans Administration Hospital, Florida.
DOUGLAS P. ZIPES, M.D., Indiana University School of Medicine and Krannert Institute of Cardiology, Indianapolis.

Subjects to be discussed will include: ELECTROPHYSIOLOGIC BASIS FOR IMPULSE FORMATION; CLINICAL ANALYSIS OF CARDIAC ARRHYTHMIAS; DE SUBITANEIS MORTIBUS; FUSION PHENOMENA; SUPRAVENTRICULAR ARRHYTHMIAS; NEURAL CONTROL OF THE HEART; VENTRICULAR ARRHYTHMIAS; PATHOPHYSIOLOGY OF A-V BLOCK; and MANAGEMENT OF PACEMAKER PATIENTS.

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April 3, 4	Indianapolis, Ind.
April 3, 4	Detroit, Mich.
May 9	Dallas, Tex.
Sept. 4, 5	Jackson Hole, Wyo.
Sept. 11, 12	Milwaukee, Wis.
Sept. 10-12	Portsmouth, N.H.

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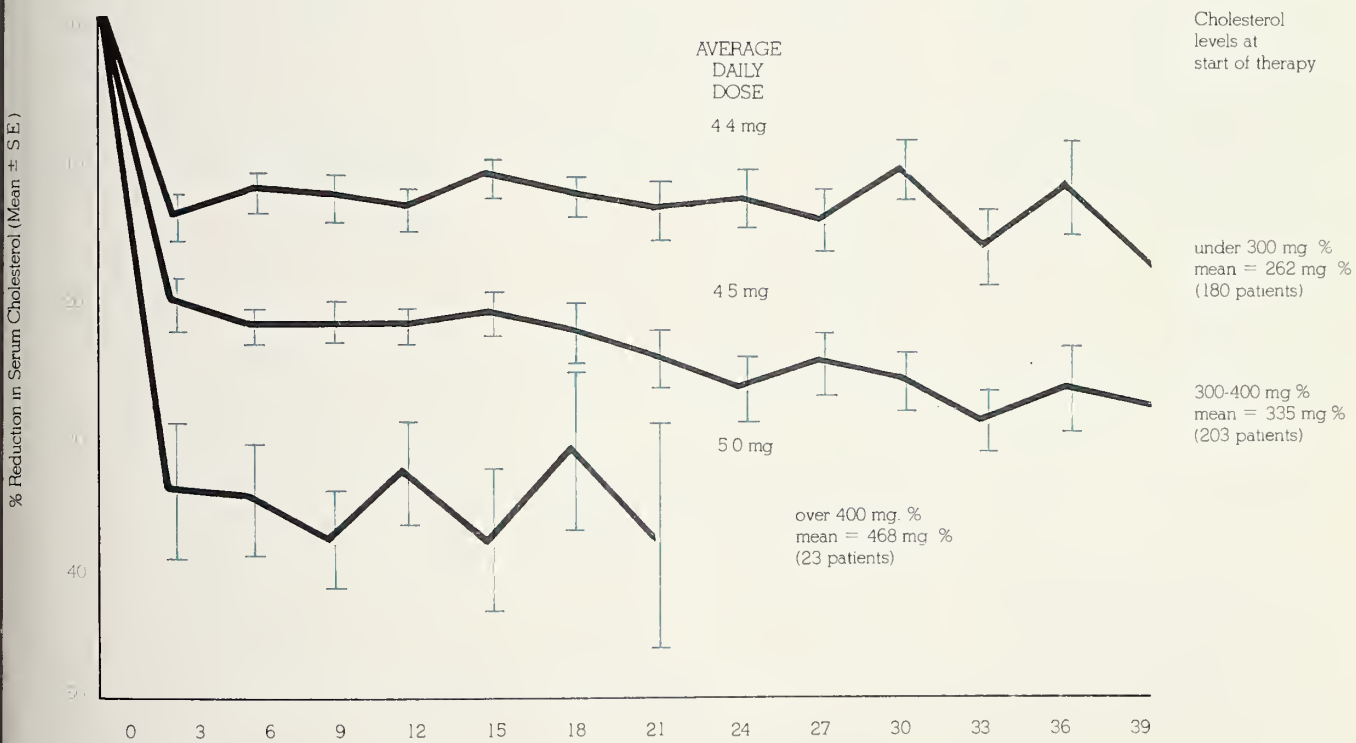
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The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication. **Before prescribing, note the following: Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.**

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications
The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease including angina pectoris, history of myocardial infarction, cardiac arrhythmia or tachycardia either active or in patients with demonstrated propensity for arrhythmias, rheumatic heart disease, history of congestive heart failure, and decompensated or borderline compensated cardiac status
2. Hypertensive states (other than mild labile systolic hypertension)
3. Advanced liver or kidney disease
4. Pregnancy
5. Nursing mothers
6. History of iodism

Warnings
CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN (sodium dextrothyroxine) therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN (sodium dextrothyroxine) therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine treated patients with coronary artery disease

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results

Usage in Women of Childbearing Age
Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring

Precautions
It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound-iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg% in treated patients are common

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued

A few children with familial hypercholesterolemia have been treated with CHOLOXIN (sodium dextrothyroxine) for periods of one year or longer with no adverse effects on growth. However, it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol lowering effect is observed

Adverse Reactions
The side effects attributed to dextrothyroxine therapy are for the most part due to increased metabolism and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, lid lag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient although its relationship to CHOLOXIN (sodium dextrothyroxine) therapy was not established

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine), a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section)

Dosage and Administration
For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0 1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0 05 mg (50 mcg) per kilogram to be increased in up to 0 05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol

If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn

How Supplied
CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1 2 4 and 6 mg tablets

March 1975

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC.
Deerfield, Illinois 60015

12-hour claims
are nothing new.

12-hour relief is.



NEW

Novafed® A Capsules

Each capsule contains pseudoephedrine hydrochloride 120 mg. and chlorpheniramine maleate 8 mg.

Controlled-Release Decongestant Plus Antihistamine

It goes the distance.





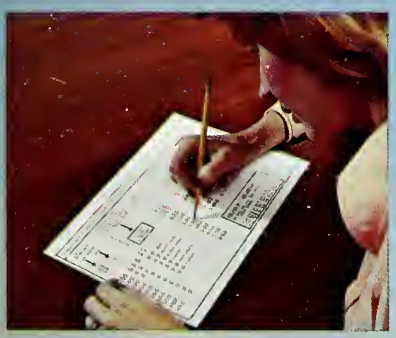
Clinical studies confirm full 12-hour effectiveness.

For years, patients have heard of drugs providing long-lasting relief. But after six or eight hours, they often run out of relief. And it's too soon to take the next dose.

Now, with Novafed A, Dow introduces a prescription capsule with 12-hour effectiveness in relieving allergy and hay fever symptoms. Placebo-controlled clinical studies show that the high level of decongestant in Novafed A provides relief for as long as 12 hours. At the same time, its antihistamine relieves the patient's itchy eyes and runny nose *without* the excessive dryness of anticholinergic agents.

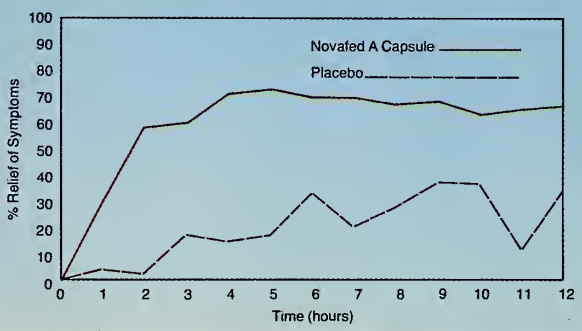
Prompt onset of effect is followed by full 12-hour relief.

(Please refer to the following page for bioavailability studies and prescribing information.)



Patients with severe pollen allergies were tested during hay fever season in a countryside environment and asked to rate severity of five different symptoms on a scale of 1 to 4.

Clinical Study: Degree of Relief from Itchy Eyes and Nose and Throat, Watery Eyes, Runny Nose*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

DOW®

Specialists in Cough and Cold Care





NEW

Novafed® A Capsules

Each capsule contains pseudoephedrine hydrochloride 120 mg. and chlorpheniramine maleate 8 mg

Controlled-Release Decongestant Plus Antihistamine

It goes the distance.



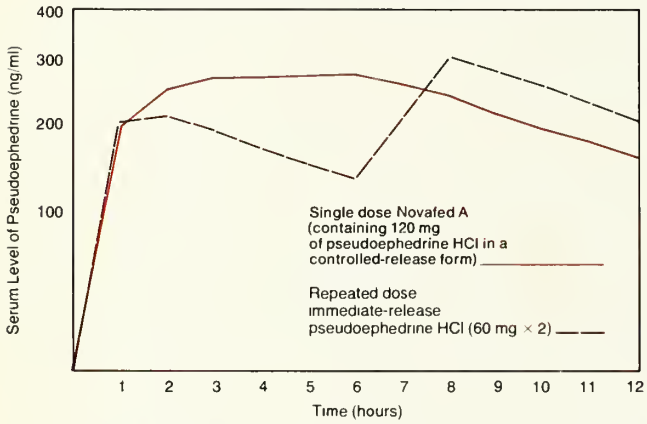
Prompt onset and sustained serum levels over 12 hours.

A bioavailability study confirmed that the sustained 12-hour action of Novafed A was comparable to that of immediate-release medication taken at 6-hour intervals.

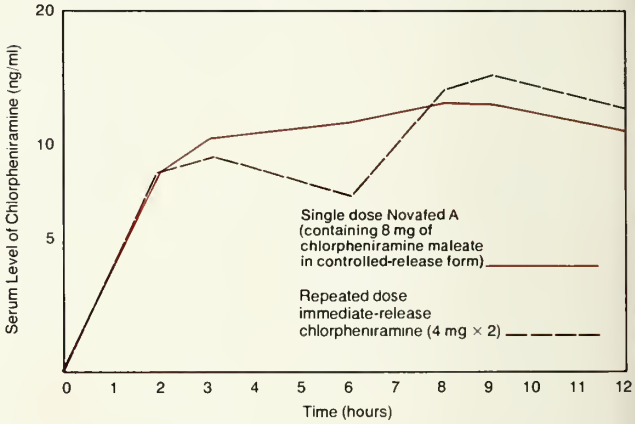
The chart at the left shows the serum levels of pseudoephedrine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 60 mg. pseudoephedrine hydrochloride in an immediate-release form. Serum levels of pseudoephedrine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

The chart at the right shows the serum levels of chlorpheniramine. Initial serum levels following one Novafed A Capsule were comparable to those following a single dose of 4 mg. chlorpheniramine maleate in an immediate-release form. Serum levels of chlorpheniramine over a 12-hour period following a single dose of Novafed A were also comparable to those obtained by an immediate-release form taken every 6 hours.

Comparison of Mean Serum Levels of Pseudoephedrine Following Novafed A and an Immediate-Release Reference Formulation*



Comparison of Mean Serum Levels of Chlorpheniramine Following Novafed A and an Immediate-Release Reference Formulation*



*Unpublished data, Medical Department Files, Dow Pharmaceuticals, The Dow Chemical Company, Indianapolis, Indiana.

DESCRIPTION: Each NOVAFED A capsule contains 120 mg. of pseudoephedrine hydrochloride and 8 mg. of chlorpheniramine maleate. The specially formulated pellets in each capsule are designed to provide continuous therapeutic effect for about 12 hours. Nearly one-half of the active ingredients is released soon after administration and the remainder is released slowly over the remaining time period.

ACTIONS: NOVAFED A combines the action of a nasal decongestant, pseudoephedrine hydrochloride, and an antihistamine, chlorpheniramine maleate. These ingredients are combined to provide prompt and sustained nasal and upper respiratory decongestant and antihistaminic action.

INDICATIONS: NOVAFED A is indicated for the relief of nasal congestion and eustachian tube congestion associated with the common cold, sinusitis and acute upper respiratory infections. It is also indicated for perennial and seasonal allergic rhinitis, vasomotor rhinitis, allergic conjunctivitis due to inhalant allergens and foods and for mild, uncomplicated allergic skin manifestations of urticaria and angioedema. Decongestants in combination with antihistamines have been used for many years to relieve eustachian tube congestion associated with acute eustachian salpingitis, aerotitis media, acute otitis media and serous otitis media. NOVAFED A may be given concurrently, when indicated, with analgesics and antibiotics.

CONTRAINDICATIONS: Symphathomimetic amines are contraindicated in patients with severe hypertension, severe coronary artery disease, and in patients on MAO inhibitor therapy. Antihistamines are contraindicated in patients with narrow-angle glaucoma, urinary retention, peptic ulcer, during an asthmatic attack, and in patients receiving MAO inhibitors.

Children under 12: NOVAFED A controlled-release capsules should not be used in children less than 12 years of age.

Nursing Mothers: Pseudoephedrine is contraindicated in nursing mothers because of the higher than usual risk for infants from sympathomimetic amines.

Hypersensitivity: This drug is contraindicated in patients with hypersensitivity or idiosyncrasy to sympathomimetic amines or antihistamines. Patient idiosyncrasy to adrenergic agents may be manifested by insomnia, dizziness, weakness, tremor or arrhythmias.

WARNINGS: Sympathomimetic amines should be used judiciously and sparingly in patients with hypertension, diabetes mellitus, ischemic heart disease, increased intraocular pressure, hyperthyroidism, or prostatic hypertrophy. Sympathomimetics may produce central nervous system stimulation and convulsions or cardiovascular collapse with accompanying hypotension.

Antihistamines may impair mental and physical abilities required for the performance of potentially hazardous tasks, such as driving a vehicle or operating machinery, and mental alertness in children. Chlorpheniramine maleate has an atropine-like action and should be used with caution in patients with increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension or in patients with a history of bronchial asthma.

Do not exceed recommended dosage.

Use in Pregnancy: The safety of pseudoephedrine for use during pregnancy has not been established.

Use in Elderly: The elderly (60 years and older) are more likely to have adverse reaction to sympathomimetics. Overdosage of sympathomimetics in this age group may cause hallucinations, convulsions, CNS depression, and death. Therefore, safe use of a short-acting sympathomimetic should be demonstrated in the individual elderly patient before considering the use of a sustained-action formulation.

PRECAUTIONS: This drug should be used with caution in patients with diabetes, hypertension, cardiovascular disease and hyperreactivity to ephedrine. The antihistaminic may cause drowsiness and ambulatory patients who operate machinery or motor vehicles should be cautioned accordingly.

ADVERSE REACTIONS: Hyperreactive individuals may display ephedrine-like reactions such as tachycardia, palpitations, headache, dizziness, or nausea. Patients sensitive to antihistamines may experience mild sedation.

Sympathomimetic drugs have been associated with certain untoward reactions including fear, anxiety, tenseness, restlessness, tremor, weakness, pallor, respiratory difficulty, dysuria, insomnia, hallucinations, convulsions, CNS depression, arrhythmias, and cardiovascular collapse with hypotension.

Possible side effects of antihistamines are drowsiness, restlessness, dizziness, weakness, dry mouth, anorexia, nausea, headache and nervousness, blurring of vision, heartburn, dysuria and very rarely, dermatitis.

DRUG INTERACTIONS: MAO inhibitors and beta adrenergic blockers increase the effect of sympathomimetics. Sympathomimetics may reduce the antihypertensive effects of methyldopa, mecamylamine, reserpine and veratrum alkaloids. Concomitant use of antihistamines with alcohol, tricyclic antidepressants, barbiturates and other central nervous system depressants may have an additive effect.

DOSAGE AND ADMINISTRATION: One capsule every 12 hours. Do not give to children under 12 years of age.

CAUTION: Federal law prohibits dispensing without prescription.

HOW SUPPLIED: NOVAFED A is supplied in red and orange colored hard gelatin capsules, monogrammed with the Dow diamond followed by the number 109, in bottles of 100.

DOW

DOW PHARMACEUTICALS
The Dow Chemical Company
Indianapolis, IN 46268

Specialists in cough and cold care

10-day Bactrim therapy outperforms 10-day ampicillin therapy.



In a multicenter, double-blind study of patients with chronic or frequently recurrent urinary tract infection, Bactrim 10-day therapy outperformed ampicillin 10-day therapy by 27.2%, when comparing patients who maintained clear cultures for eight weeks. Criterion for "clear culture" was 1000 or fewer organisms/ml of urine.

While adverse reactions were mild (*e.g.*, nausea, rash), more serious reactions can occur with these drugs. See manufacturers' product information for complete listing.

Note: Bactrim single strength tablets were used in these clinical trials. However, studies have established the bioequivalency of Bactrim DS with the single strength tablets.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole)

double strength tablets Just 1 tablet B.I.D.

Bactrim™

(80 mg trimethoprim and 400 mg sulfamethoxazole)

2 tablets B.I.D.

For chronic or frequently recurrent cystitis and pyelonephritis due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections evidenced by persistent bacteriuria (symptomatic or asymptomatic), frequently recurrent infections (relapse or reinfection), or infections associated with urinary tract complications, such as obstruction. Primarily for cystitis, pyelonephritis or pyelitis due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii.*

NOTE: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in these urinary tract infections. The recommended quantitative disc susceptibility method (*Federal Register, 37*:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. **Data are insufficient to recommend use in infants and children under 12.**

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12. Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) every 24 hours
Below 15	Use not recommended

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10.

Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored—bottles of 16 oz (1 pint).

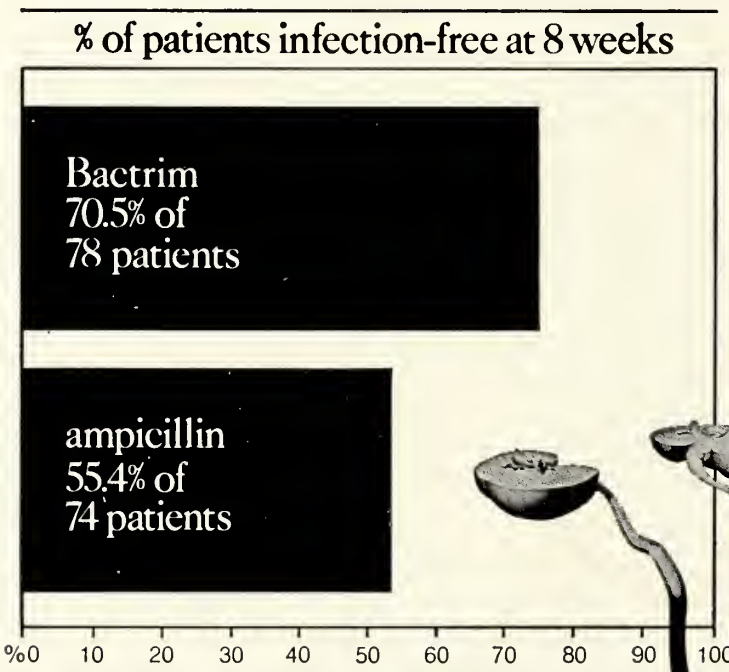
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Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

In a multicenter study of patients with chronic or frequently recurrent urinary tract in

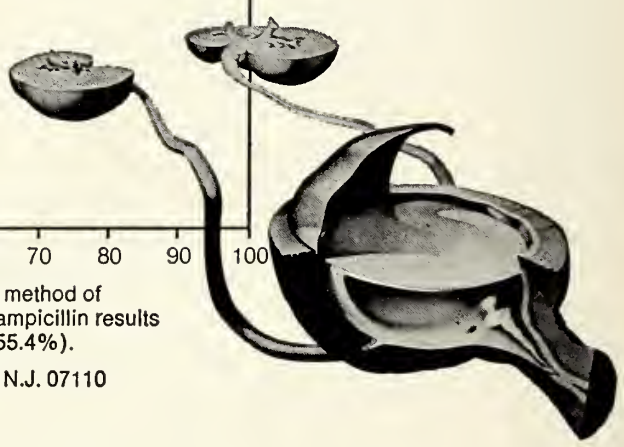
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U. of California Medical Center
San Francisco, Calif. 94143

Bactrim™ was 27.2%* more effective than ampicillin keeping patients infection-free for 8 week



*This percentage is arrived at by the statistical method of dividing the difference between Bactrim and ampicillin results (15.1%) by the percent of ampicillin results (55.4%).

†Data on file, Hoffmann-La Roche Inc., Nutley, N.J. 07110



Bactrim™ DS
(160 mg trimethoprim and 800 mg sulfamethoxazole)
double strength tablets
Just 1 tablet B.I.D.

Bactrim™
(80 mg trimethoprim and 400 mg sulfamethoxazole)
2 tablets B.I.D.

Please see summary of product information on preceding page.

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Summer Medicine

THE Journal OF THE Kansas Medical Society

MAY
1976

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NO. V

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MAY 27 1976

Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

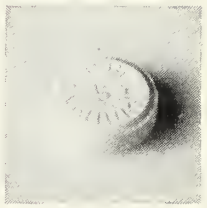
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequ and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdr may be associated with temporary increase in frequency and/or severity c seizures. Advise against simultaneous gestion of alcohol and other CNS depr sants. Withdrawal symptoms (similar those with barbiturates and alcohol) l occurred following abrupt discontinu (convulsions, tremor, abdominal and cle cramps, vomiting and sweating). addiction-prone individuals under ca

respond to one

According to her major
ptoms, she is a psychoneu-
patient with severe
ety. But according to the
ription she gives of her
ngs, part of the problem
sound like depression.
is because her problem,
ough primarily one of ex-
ve anxiety, is often accom-
ed by depressive symptom-
gy. Valium (diazepam)
provide relief for both—as
xcessive anxiety is re-
d, the depressive symp-
associated with it are also
relieved.

There are other advan-
s in using Valium for the
agement of psychoneu-
anxiety with secondary
essive symptoms: the
hotherapeutic effect of
um is pronounced and
d. This means that im-
ement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium®
(diazepam) (IV)

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

illance because of their predisposi-
to habituation and dependence. In
nancy, lactation or women of child-
ing age, weigh potential benefit
nst possible hazard.

autions: If combined with other psy-
ropics or anticonvulsants, consider
fully pharmacology of agents em-
ed; drugs such as phenothiazines,
otics, barbiturates, MAO inhibitors
other antidepressants may potentiate
ction. Usual precautions indicated in
nts severely depressed, or with latent
ession, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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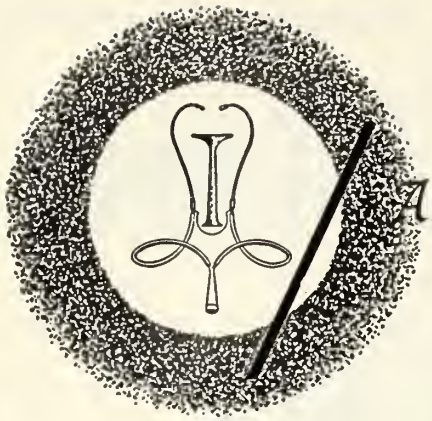
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Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the* DOCTOR'S CALENDAR. *Notice of the session is posted in advance to allow the physician time to make preparations.

MAY

May 16-20 — American Urological Association, Las Vegas Hilton, Las Vegas. INFO: H. B. Jennings, Jr., M.D., 1120 N. Charles St., Baltimore 21201.

May 17-18 — Health Problems of Skin, Washington, D.C. INFO: Frank Chappell, AMA, 535 N. Dearborn, Chicago 60610.

May 22-23 — Selected Topics in Gastroenterology, American Gastroenterological Association, Fontainbleau Hotel, Miami Beach. INFO: AGA, 6900 Grove Road, Thorofare, NJ 08086.

May 22-25 — Southwest Allergy Forum, Hilton Palacio del Rio Hotel, San Antonio, TX. INFO: P. B. Kamin, 601 Oak Hills Medical Building, San Antonio, TX 78229.

May 27-29 — American Cancer Society, National Conference on Radiation Oncology: *Present Status and Future Potential,* San Francisco Hilton and Tower, San Francisco. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Ave., New York 10017.

JUNE

June 10-12 — Symposium on Clinical Care, Crown Center Hotel, Kansas City, MO. INFO: A. L. Bingham, University of Missouri-Kansas City, School of Medicine, 2220 Holmes Street, Kansas City, MO 64108.

June 13-16 — Rocky Mountain Neurosurgical Society, Inc., Desert Inn and Country Club, Las Vegas. INFO: R. H. Moiel, M.D., Secretary, 601 Medical Towers, 1709 Dryden Street, Houston, TX 77025.

June 17-19 — International Congress on Ocular Trauma, Hynes Auditorium, Boston. INFO: H. M. Freeman, M.D., 20 Staniford Street, Boston, MA 02114.

June 20-22 — American Diabetes Association, Hilton, San Francisco. INFO: E. M. Frost, W. 48th Street, New York 10020.

June 21-26 — The Role of Medical Group Practice in the Health Policies of Different Countries, Paris, France. INFO: Robert W. Jamplis, M.D., American Group Practice Association, 20 S. Quaker Lane, Box 949, Alexandria, VA. 22313.

June 26-July 1 — American Medical Association Annual Meeting, Dallas. INFO: J. H. Sammons, MD, 535 N. Dearborn, Chicago 60610.

June 26-27 — American Association for the Study of Headache, Sheraton-Dallas, Dallas. INFO: S. Diamond, M.D., 5252 N. Western Ave., Chicago 60625.

June 28-July 4 — International College of Surgeons, Hyatt Hotel, Cherry Hill, PA. INFO: M. Lento, 1516 Lake Shore Drive, Chicago 60610.

SEPTEMBER

Sept. 9-11 — American Association of Obstetricians and Gynecologists, The Homestead, Hot Springs, VA. INFO: G. W. Mitchell, M.D., 171 Harrison Ave., Boston 02111.

Sept. 20-23 — American Hospital Association, Statler Hilton, Dallas. INFO: J. A. McMahon, 840 N. Lake Shore Drive, Chicago 60611.

Sept. 21-26 — Colorado Medical Society, the Broadmoor, Colorado Springs. INFO: D. G. Derry, 1601 E. 19th Ave., Denver 80218.

University of Kansas School of Medicine

May 22 — *Pediatric Emergencies,* KUMC, Battenfeld Auditorium, Kansas City, KS.

For further information, write the Division of Continuing Education, KUMC, Kansas City, KS 66103.

May 21 — *Massive Gastrointestinal Bleeding,* KUMC-Wichita Branch, St. Francis Hospital, Wichita. INFO: Dept. of Surgical Education, St. Francis Hospital, Wichita 67214.

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Testing in Humans: Who, Where & When.

he weight of ethical opinion:

Few would disagree that the effectiveess and safety of any therapeutic agent device must be determined through inical research.

But now the *practice* of clinical reearch is under appraisal by Congress, the ress and the general public. Who shall dminister it? On whom are the products be tested? Under what circumstances? nd how shall results be evaluated and tilized?

The Pharmaceutical Manufacturers ssociation represents firms that are sigificantly engaged in the discovery and evelopment of new medicines, medical evices and diagnostic products. Clinical esearch is essential to their efforts. Conequently, PMA formulated positions hich it submitted on July 11, 1975, to he Subcommittee on Health of the Sente Labor and Public Welfare Committee, s its official policy recommendations. Here are the essentials of PMA's current hinking in this vital area.

1. PMA supports the mandate and nission of the National Commission for he Protection of Human Subjects of iomedical and Behavioral Research and ffers to establish a special committee omposed of experts of appropriate isciplines familiar with the industry's esearch methodology to volunteer its ervice to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current tate of drug innovation and the impact upon it of existing laws, regulations and rocedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct nontherapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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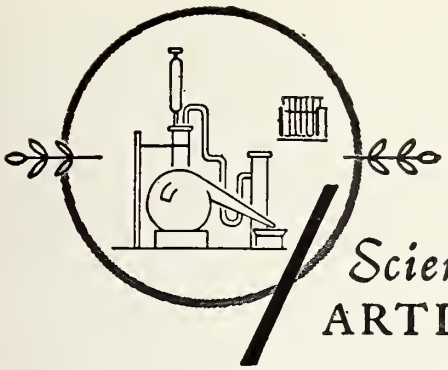
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Drowning and Near-Drowning

Pathophysiology, Management, and Some Historical Notes

JOSEPH S. REDDING, M.D., ***Charleston, South Carolina***

MAN'S EARLIEST efforts to arouse the victim of suspended animation were based on stimulation by such methods as flagellation or the application of hot coals. The urge to waken a dead patient by stimulation seems to be an uncontrollable knee-jerk response which carries over into many current practices. However, throughout history the truth has repeatedly surfaced and submerged.

Often it has been stated that the first recorded use of mouth-to-mouth resuscitation was the account of the Prophet Elisha reviving the Shunnamite child, found in the Second Book of Kings. This seems unlikely. From the description, Elisha was probably as oblivious of the basic principles as are many modern would-be rescuers.

We do know that as early as the 16th century, mouth-to-mouth resuscitation of newborn infants was common practice among midwives. However, the technique was considered inelegant and undignified by physicians, who felt that it was beneath their notice and of little concern to them.[1]

Positive-pressure ventilation of the lungs was first recommended in 1530, by Paracelsus, who suggested that the household fireside bellows be used.[2]

In 1543, Vesalius also recommended the bellows and recognized soft tissue obstruction of the airway as being a problem. An illuminated letter from one of his manuscripts demonstrates a tracheostomy being performed on a pig as a preliminary to artificial ventilation. In *De Corporis Humani Fabrica,* he wrote: "an opening must be attempted in the trunk of the trachea, into which a tube of reed or cane should be put; you will then blow into this so that the lung may rise again and the animal take in air, then the heart becomes strong and exhibits a wonderous variety of motions."

In 1667, Robert Hook presented his modification of the bellows to the Royal Society, and it was adopted.

David Ramsey,[3] in reporting the important events of the 18th century, noted that the first society for the recovery of drowned persons was instituted in Amsterdam, in 1767. This was the consequence of some instances of apparent recovery in Switzerland. Memoirs of the society were published, and a copy of them was brought from Holland to Great Britain by a Dr. Cogan. These he translated, "in order to show to the British publick the practicability of recovering persons, who had hitherto been considered dead, in consequence of being taken out of the water with every appearance of death."[2]

In the summer of 1774, an association of 30 gentlemen, one half of whom were friends of Dr. Cogan,

Several thousand people die each year in this country as the result of drowning. Most of them are young and in good health. No single disease accounts for as many deaths in people under 24 years old, yet relatively little is known about this costly killer. For centuries the search for a solution to this problem was frustrated by lack of understanding of the principles of resuscitation.

From the Department of Anesthesiology, Medical University of South Carolina, Charleston 29401.

Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

Address reprint requests to Dr. Redding.

formed a society whose object was to promote the recovery of persons apparently dead from drowning.[4] In the next four years, 150 drowned persons were reportedly recovered in the United Provinces. Some years later over 2,000 persons, supposedly restored to life, walked in procession to solicit public charity in behalf of the Royal Humane Society.[3]

In May 1784, a gentleman of education and intelligence, one Dr. Moyes, arrived in Boston from London. That winter he discussed the British institutions for public benefit, including the Royal Humane Society, with his new friends. The Massachusetts Humane Society was founded, modeled on the older version in the mother country. The first meeting was held January 5, 1786, at the Bunch of Grapes Tavern on State Street.

The Society promulgated, and in some instances modified, the recommendations of the Royal Humane Society. The necessary equipment for resuscitating victims of drowning was said to be a bellows to inflate and extract air from the lungs, a bier made of wickerwork, "that water may easily run off," and a warming machine of block tin or copper, with double walls to contain hot water. Monetary rewards were offered for successful efforts to revive victims of drowning. Interestingly, the society's records reveal that a number of hoaxes were detected. Similar instances may account, at least in part, for the many successes attributed to the Royal Humane Society. Far more valuable activities of the Society were the construction of Huts of Refuge, light houses, mortar stations, and life boat stations.[4]

William Cullen,[5] First Physician to His Majesty and Professor of the Practice of Medicine in the University of Edinburgh, expressed his views in 1791. In a letter to Lord Cathcart, President of the Board of Police, he no longer advocated hanging the drowned person by the heels or rolling the body over a cask. Instead, he recommended that the body be placed supine, "with head not bent forward." The first step was to restore body heat by rubbing with warm cloths, immersion in hot water, or by being placed in bed with another person. He advocated external application of stimulants, such as quick lime or sal ammonica. Since he observed that the intestines retained irritability longest of all body tissues, he was an advocate of blowing tobacco smoke up the victim's rectum. Along with this therapeutic nonsense, he recommended inflation of the lungs with exhaled air, or the bellows, and noted that pressure on the cricoid cartilage would prevent accidental gastric distension, while permitting air to enter the larynx.

The minutes of the April 27, 1793, meeting of the Medical Society of South Carolina contain the following: "An apparatus as used by the Humane Society of London for the recovery of persons apparently dead from drowning, or other causes, imported by Doctor Poinsett, being offered to your Society, at cost and charges, was accepted of. The Society thereupon ordered the Secretary to give public intimation of this in the papers; and further that the same be deposited with Doctor Poinsett, that it may be had recourse to when wanted." A committee was appointed to petition the City Council for the purpose of inducing their cooperation in promoting the resuscitation of persons apparently dead; likewise to draw up directions for accomplishing the same.

On August 19, 1793, it was ordained by the Honorable Intendant and wardens of Charleston,[7] in City Council assembled, that:

all licensed retailers of spiritous liquors are hereby compelled to receive into their houses, by night as well as by day, the bodies of persons apparently dead from drowning, or other causes which shall be brought to their houses, within 3 hours from the time of the accident; and shall also furnish with all speed, all such articles as may be necessary to assist in restoring to life all such bodies which may be brought as aforesaid to their houses; for which they shall be paid by the City Treasurer the full value thereof, first presenting to the City Council their account, certified to be just by the attending physician or surgeon, and shall also receive recompense of 20 shillings.

—and be it further ordained by the authority aforesaid, that every retailer of spiritous liquors, who shall refuse to receive into their houses, by night or day, the bodies of such persons as are meant to be comprehended under the first section of this ordinance, shall immediately forfeit his or her license.

And be it further enacted, that every licensed retailer of spiritous liquors, shall constantly keep in public view, printed directions for restoring persons apparently dead to life, which directions, drawn up by the Medical Society of South Carolina, shall be given them gratis; upon neglect they shall forfeit any sum not exceeding the amount of the license.

And be it further ordained by the authority aforesaid, that the sum of 2 pounds shall, in every unsuccessful case be distributed among the first 4 persons who shall attempt the recovery of any person or persons apparently dead, from drowning or other accidents, provided the means to be recommended by the Medical Society, or by any skillful physician or surgeon, be used within the first 3 hours from the accident happening, and be persisted in for at least 3 hours; and that in every successful case, when life shall be restored, the sum of 4 pounds shall be distributed in like manner, the persons entitled to receive the same in either case, to produce a certificate of their services to the City Council, signed by the attending physician or surgeon.

In addition to the preceding ordinance, the following "resolve" was given by the City Council[7] on August 14, 1793:

Resolved that the Medical Society of South Carolina agreeably to their requisition be authorized to purchase one or two seines, drag hooks, and drag nets—four blankets; one

or two pairs of bellows—18 yards of flannel, and 2 dozen empty gin jugs for the purpose of assisting the Medical Society of South Carolina in their humane intentions to restore life to persons under suspended animation—and that the City Council will reimburse the expenses of the same.

Resolved that the City Council will pay for 600 copies of the directions for restoring "persons apparently dead to life"—drawn up by the Medical Society of South Carolina, who are hereby authorized to have the same printed.

LeRoy-d'Etoilles,[8] in 1829, found post-mortem evidence of damage to the lungs which he attributed to the use of the bellows. His reports of emphysema and tension pneumothorax greatly perturbed the French Academy of Science. A committee of investigation confirmed his observations, and even the Royal Humane Society withdrew the bellows wherever they had supplied them. To fill the void, LeRoy-d'Etoilles advocated the first of the pressure methods. He recommended compression of the chest and abdomen to produce movement of the diaphragm, and assumed ventilation would result.

A new pressure method of artificial ventilation was recommended almost annually for the next 100 years. In 1904, Schaffer[9] introduced the prone chest pressure method. This was found to be inferior to Silvester's supine chest-pressure arm-lift method by a number of observers. However, the Schaffer method was adopted in England. Lord Knutsford, president of the Lifesaving Society, used the Silvester method to resuscitate a girl who had been rescued from the river. She subsequently died from a ruptured liver.[10]

Holger Nielsen[11] described his prone back-pressure arm-lift method in 1932. Krogh and Lindhard reported the method produced tidal volume of 1,000 to 1,900 ml in hyperventilated relaxed subjects. Acceptance of the Nielsen method spread from Scandanavia to the United States in 1935, when Drinker and Shaw reported it. Studies carried out by Gordon and others, on intubated, curarized volunteers led to endorsement by the National Research Council in 1951. It was widely taught by such agencies as the American Red Cross, the Boy Scouts of America, and the St. Johns Ambulance Corps of Great Britain.[12]

In 1958, a group of investigators at Baltimore City Hospitals reported that this method, performed by trained and experienced rescuers, was effective in producing tidal volumes less than dead space in curarized volunteers. They found that mouth-to-mouth ventilation, performed by untrained rescuers, was far more effective. The earlier studies had been misleading because airway obstruction was prevented by use of an endotracheal tube.[13]

Although Maass, in 1892, had successfully resuscitated two patients with circulatory arrest due to chloroform anesthesia by external cardiac compression, his report attracted little attention. Following the first successful resuscitation of a patient with cardiac arrest by thoracotomy and internal cardiac compression,[14] cardiac resuscitation was limited almost exclusively to the operating room, since that was considered to be the only practical location in which to attempt thoracotomy.

In 1960, at the Johns Hopkins University, a group of investigators rediscovered the forgotten fact that artificial circulation could be produced in patients with cardiac arrest by external compression of the chest, and that thoracotomy was unnecessary for cardiac resuscitation.[15]

Within a brace of years (1958-1960), the effectiveness of the two basic techniques of cardiopulmonary resuscitation was established. Neither method required equipment, and both could be performed by any trained rescuer. Attempts at resuscitation became practical in a multitude of new circumstances.

As early as the 18th century, ingenious men drowned animals in transparent vessels filled with water. They observed all circumstances of their death and dissected them after they ceased to breathe.[3] In spite of many attempts over the following years, no resuscitative measure, other than early recovery from the water, had ever been of demonstrated value in drowning.

With the establishment of the new methods of external cardiopulmonary resuscitation, the new resuscitative measures were tested in drowned animals.

Pathophysiology

Post-mortem examination of drowning victims sometimes shows a pink coloration of the skin suggestive of carbon monoxide poisoning. Goose flesh is often seen. Frothy pulmonary edema fluid may fill the lungs and airway, and exude from the nose and mouth. When the chest is opened the lungs appear hyperexpanded, and petechial subpleural hemorrhages are common. Microscopic examination may reveal seaweed, sand, mud, algae, or diatoms. There is diffuse capillary congestion of the alveolar walls. The upper gastrointestinal tract may be filled with ingested fluid and foreign material. Chemical and morphologic alterations in the blood may be discovered.[16] The findings are extremely variable, and none are consistently found in all victims.

Experimental Drowning

Experimental evidence indicates that submersion is followed by a period of breath-holding and struggling of markedly variable duration. This is followed by swallowing of large volumes of water and vomiting.[17] Laryngospasm may prevent flooding of the lungs until asphyxia becomes profound. Some victims die during this

phase, before water enters the lungs. Once asphyxia produces flaccidity, the victim's glottic muscles relax and subsequent events are determined by the composition of the fluid which floods the lungs.

In fresh water drowning, large volumes of water pass through the lungs into circulation with extreme rapidity. There is evidence that the circulating blood volume may be doubled within two minutes. This marked hemodilution results in massive hemolysis and lowering of blood concentrations of sodium, chloride, calcium, and plasma proteins. The combination of hypoxia and relative hyponatremia from the hemodilution may lead to sudden ventricular fibrillation as the cause of death.[18] If fibrillation does not occur, or if it is corrected, the massive hypervolemia results in fulminating pulmonary edema.

Sea water contains 3.5 per cent mixed salts and consequently is markedly hypertonic compared with blood. When sea water is aspirated, these salts diffuse into the blood with rapid elevation of the plasma sodium. The osmotic effect of the sea water causes loss of large amounts of fluid from the circulation into the lungs. As the alveolar membrane is damaged, plasma protein is also lost into the lung fluid. The end result is the paradoxical combination of hypovolemia and pulmonary edema. Hypotension, bradycardia, and death may follow.

Resuscitation

Most victims of submersion will either survive spontaneously, not having been submerged so long that resuscitation is necessary, or will be beyond help. Resuscitation and subsequent treatment are aimed at one zone in a wide spectrum of rapidly changing physiologic events. It must always be remembered that the apparent duration of submersion is an unreliable guide to the condition of the victim.

As soon as a victim is recovered after submersion, breathing movements should be checked. If breathing and coughing are vigorous, it is likely that hypoxic damage is slight and that little water has been aspirated. If the patient is conscious, he should be transported to a hospital for physical examination, chest x-ray, and examination of blood and urine.

If there are no breathing movements, time must not be wasted. No attempt should be made to drain water from the lungs, since this cannot be accomplished effectively.[19] The pharynx should quickly be cleared by the rescuer's fingers and exhaled air resuscitation started immediately. The lungs can usually be ventilated by blowing through fluid which may be in the airway. Immediately after a few successful lung inflations, the pulse in the carotid artery should be checked. If it is not palpable, external cardiac compression must be started and continued along with artificial ventilation of the lungs. Intermittent positive-pressure ventilation with oxygen should be substituted for exhaled air as soon as the necessary equipment becomes available. Both artificial respiration and external cardiac compression must be continued while the victim is transported to a hospital. Cardiac compression may be discontinued if a spontaneous pulse becomes palpable in the carotid artery. Positive-pressure ventilation should not be discontinued even if spontaneous breathing efforts return. In this event, the victim's inspiratory efforts should be assisted with positive-pressure oxygen.[20]

Definitive Treatment

In the hospital, if a spontaneous pulse is still not palpable, 1 mg epinephrine should be injected by the intracardiac or intravenous route. The dose should be reduced for children under 18 months of age. If there is electrocardiographic evidence of ventricular fibrillation, external countershock should be used to correct it. Artificial respiration and circulation should be continued, along with the intravenous administration of peripheral vasoconstrictor drugs, such as phenylephrine or methoxamine, until spontaneous circulation is restored.[21]

Then, the patient's blood and urine should be examined, a chest x-ray taken, and an adequate physical examination performed. Fluid and electrolyte redistribution occurs very rapidly following aspiration of either fresh or sea water. Blood specimens drawn 30-60 minutes after removal from the water may show little evidence of the changes which resulted from fluid aspiration. If a serious degree of hemolysis has occurred in victims of fresh water drowning, packed red blood cells may be given. Following sea water aspiration, administration of plasma may be essential to restore the circulating blood volume. In either type of drowning, monitoring of the central venous pressure provides a minute-to-minute indication of the effectiveness of treatment.[22]

Although the circulatory changes may be life-threatening in some cases, the most severe problem in the management of any patient who has aspirated large volumes of fluid is arterial hypoxemia and acidosis.[23] Loss or alteration of lung surfactant material leads to areas of non-ventilated alveoli through which pulmonary blood flow is shunted. Consequently, arterial blood should be drawn for determination of pH, PCO_2, and PO_2 as soon as possible. From these values the necessary dose of sodium bicarbonate can be determined, as well as the inhaled oxygen concentration required to prevent hypoxemia. It is desirable to produce a modearte degree of respiratory alkalosis by the use of mechanical positive-pressure ventilation through an endotracheal tube. It is our practice to maintain $PaCO_2$ in the range of 30-35 mm Hg, utilizing intravenous doses of narcotics if necessary to reduce respiratory drive and control ventilation with the respirator. Positive end expiratory pressure is

increased in small increments until PaO_2 can be maintained in the range of 60-90 mm Hg, utilizing inhaled O_2 concentrations of 50 per cent or less. Occasionally, increasing positive end expiratory pressure causes enough circulatory depression that this cannot be accomplished. In such cases we are forced to increase inhaled oxygen concentration until pulmonary ventilation/perfusion ratio improves. Bronchodilators may be helpful, and the pneumonitis should be treated with steroids and antibiotics. The patient's progress should be followed by means of serial blood gas determinations. When the pulmonary shunt subsides (usually within 48-72 hours) spontaneous breathing may be permitted, but supplementary oxygen is often still necessary. The inspired oxygen concentration should be reduced as soon as normal arterial PO_2 values can be maintained with lower concentrations.

Summary

Since the process of drowning or near-drowning can be such a variable experience, it is essential at each step to base treatment upon currently observed phenomena, rather than previously developed postulates of what may be anticipated.

Although rapid and specialized attention to many facets of care are necessary in the management of the patient subjected to drowning or near-drowning, these efforts can be rewarding. This form of accident has a predilection for the young and healthy. Successful resuscitation gives a high yield of useful lifespan.

Acknowledgement

Ms. Marian Cook assisted with the historical research contained in this paper.

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(Continued on page 196)

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Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

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Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

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Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

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All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

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Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

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Allergic Crises

Systemic Reactions to Insect Stings

FREDERIC SPEER, M.D., ***Shawnee Mission***

EVERY MEDICAL specialty is plagued by at least one serious emergency. In the case of allergy it is the systemic reaction. This type of reaction is caused by exposure to one of what we may call "the three in's": ingestants, inhalants, and injectants. Here are examples from our clinic of such reactions.

A school teacher always checks everything she eats, to be absolutely sure that it contains no peanut or the closely related seed, soybean. Last week she forgot to check and ate a cookie that contained peanut butter. Within 10 minutes she came in with a swollen face, hoarseness, conjunctival suffusion, swollen lids, and a subjective impression of throat and tongue swelling.

A new mother was brought a glass of milk soon after delivering her first baby. In her groggy condition she failed to realize that milk had always caused violent symptoms, and drank it all. The result was shock.

On two occasions a young man was found unconscious on the bathroom floor. This was later established as an allergic reaction to aspirin.[1]

A farmer, while moving mouldy hay from a barn, reacted with edema of the face, severe wheezing, and collapse. Both his physician and his wife (a nurse) urged him to seek allergic treatment, but he put it off. Shortly thereafter he had a similar reaction while cleaning an old rental property. When tested, he was found to be extremely sensitive to Alternaria and other soil molds.

But it is the injectants which are the most common and dangerous offenders, especially injected drugs. Every physician has seen alarming reactions after the administration of horse serum, vaccines, penicillin, dextrans, contrast media, local anesthetics, or allergy extracts. All these reactions are iatrogenic (iatros—physician, genic—causing). The danger is considerably lessened by the fact that appropriate treatment is immediately available.

In this paper we are concerned with a unique type of injectant allergy; the systemic reaction to insect stings. It differs from other reactions in three respects: (1) It is not iatrogenic but what we might call entomogenic. When the physician injects a drug, facilities for prompt treatment are immediately at hand. However, when an insect injects venom, the patient is almost always far removed from such aid; (2) In most cases, neither the patient nor his physician has suspected that insect sting sensitivity exists. This is in contrast to other severe allergic reactions where milder, previous reactions usually serve as a warning; (3) The nature of the patient's attack is often not recognized, it often being assumed to be coronary thrombosis, stroke, or anything but allergy.[2]

The unique type of injectant allergy—the systemic reaction to insect stings—is discussed.

The insects with whose stings we must deal are members of the Hymenoptera family: honey bees, bumble bees, sweat bees, wasps, and yellow jackets *(Figures 1-4)*. Ants are members of this family, but are not a problem in Kansas.

Treatment

Epinephrine, 1:1000, is the first thought when a patient is having (or threatens to have) a severe reac-

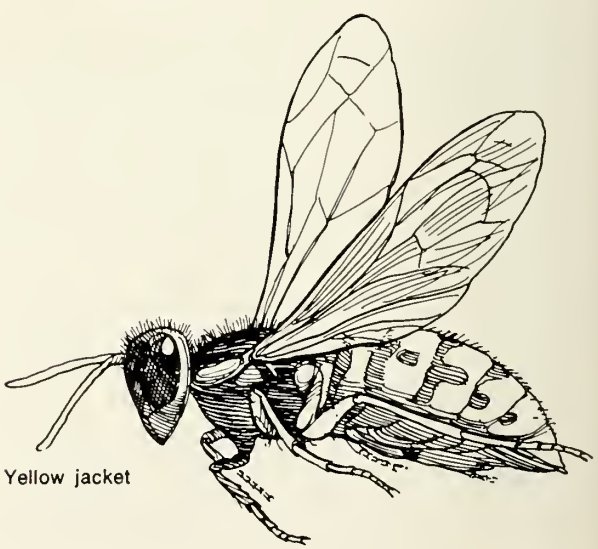


Figure 1

From the Speer Allergy Clinic, 5811 Outlook Drive, Shawnee Mission, Kansas 66202.

Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

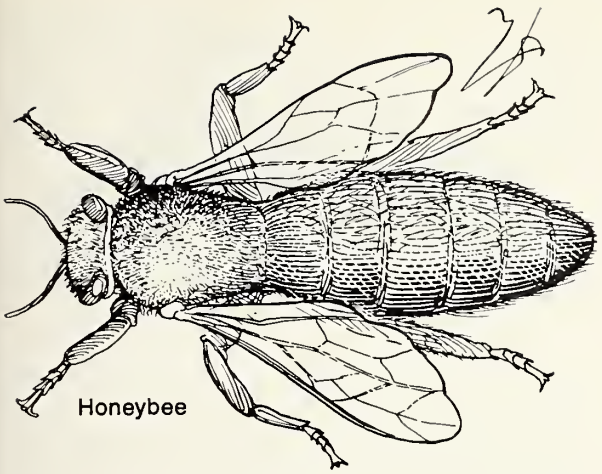


Figure 2

tion to an insect sting. The generally recommended dose is 0.5 ml, but Frazier[3] recommends 0.2-0.3 ml for children and 0.3-0.5 ml for adults. We prefer the lower doses because even slight overdosage may cause weakness, tremor, tachycardia, and even syncope and coma.[4]

Most systemic reactions call for no more than one or two injections of epinephrine, but the possibility of a serious delayed reaction must always be kept in mind. In doubtful cases the patient should enter the hospital. Cases of anaphylactic shock are treated as vigorously as any other type of shock. Hanashiro and Weil[5] stress the importance of maintaining blood volume, and not assuming that the patient already has too much fluid in him. An even more urgent and dangerous emergency is obstruction of the respiratory tract, which may in rare instances require tracheostomy.

Prevention

As is true of certain other allergic conditions, preventive treatment involves both avoidance and hyposensitization. If hyposensitization were uniformly successful, it alone would suffice. But its occasional failure to protect against severe (rarely fatal) reactions makes avoidance necessary.[6]

Avoidance

Drawing on the experience of bee keepers and from their own experimental findings, entomologists Morse and Ghent[7] make the following recommendations to those who must avoid stings:

1. Avoid flowers, orchards, vineyards and flowering vines, shrubs, and trees.

2. Light-colored clothing should be worn by people who are to be outdoors in warm weather—most stings in Kansas occur from late April to October. Dark-colored clothing, especially if it has an odor of any kind (a leather jacket, for example) tends to attract insects. This is also true of sweat, perfumes, and scented hair oils and cosmetics.

3. Rapid movements tend to excite insects. When insects are encountered, slow withdrawal from the scene is recommended.

4. If a stinger is left in the skin, the attack was made by a honey bee. A small venom-containing bulb present at the base of the stinger contracts rhythmically for a short time. Because pulling the stinger out makes the bulb act like a syringe—injecting more venom, the stinger should be scraped off with a fingernail or knife blade.

5. Eaves and outbuildings are favorite nestling places for wasps.

6. Bee keepers with family members allergic to insect stings should move them away from the vicinity of hives.[6]

7. Going barefoot in the grass is an invitation to a bee sting of the foot.[6]

Hyposensitization

It is universally recognized that every patient who has had a systemic reaction to an insect sting should be hyposensitized. According to present practice, a mixture of whole body extract of bee, wasp, hornet, and yellow jacket is used.[3] Since sting victims often do not know which type of insect stung them, it is appropriate that such a mixture be used. Theoretically at least, the insect's venom would appear to be the best antigen for hyposensitization, and there is recent revival of interest in its use.[8]

Before treatment is started, testing is done by intradermal injection of a 1-10 million dilution of insect extract. If there is no wheal-and-flare reaction, a test is made with the 1-1 million dilution and so on, until a positive reaction occurs. Tests are made at 20-minute intervals; during testing the patient is carefully watched for the slightest sign of a systemic reaction.

When a positive reaction is obtained, weekly injections are begun, the starting dilution being the one which caused this reaction. The amount of antigen is doubled at each visit, until the level reaches 1:100 or

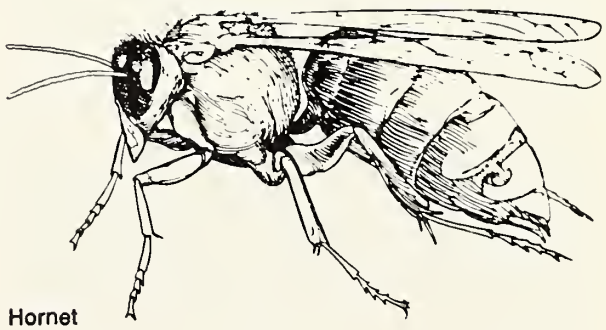


Figure 3

1:10 strength.[9] In our clinic we stop at the 1:100 strength (as with pollens).

The great dilemma today is how long the patient should be treated. A period of three years has traditionally been considered the standard length simply because this is the usual course for pollen-sensitive patients. Mueller[10] has recently commented that all patients should probably have some plan of continuing immunological treatment. When treatment is prolonged over a number of years, the interval between injections is lengthened to three-four months.[10-12]

In 1950 and again in 1963, Swinny[2, 13] recommended a course arbitrarily set at 18 injections. For the last nine years, we have been following the same basic scheme, giving a course of weekly injections for five months and then discontinuing treatment. To date, no patients have had a more severe reaction than the one they experienced initially, and only one has had the same degree of reaction. Patients who have any degree of systemic reaction are given a second course of treatment.

We do not depend on hyposensitization alone. Patients are instructed in insect avoidance and are shown how to self-administer epinephrine. We make it a practice to have the patient actually give an epinephrine injection. This makes certain that he can do so properly, and also makes him aware of the side effects of the drug.

It has been standard policy not to use hyposensitization for local reactions, no matter how large they may be. But more recently there is a tendency to treat this type of reaction when swelling is extensive and when repeated stings result in increasingly severe reactions.[10, 12]

Little attention has been paid in papers on insect sting allergy to the problem of systemic reactions to hyposensitization. We have had several patients who reacted alarmingly. These reactions commonly occur early in treatment when the patient is receiving highly diluted extract. Since it is obvious in such cases that hyposensitization is failing and that the patient who is unable to take traces of insect antigen could not take an actual sting, we have made it a policy to discontinue injections. All these patients are urged to be especially careful to avoid insects, and to be sure that they always have epinephrine immediately at hand.

Summary

The most serious of all allergic phenomena is the systemic reaction to insect stings. Management includes proper emergency treatment of the reaction itself and prevention of future reactions. The first thought in emergency treatment is epinephrine, but severe cases may demand hospitalization and attention to respiratory obstruction and shock.

Prevention involves hyposensitization and avoidance of exposure to stinging insects. Every patient who has had a sting reaction is instructed not only in avoidance but in the self-administration of epinephrine. It is of the utmost importance to remember that hyposensitization is not effective in every case. This underscores the importance of avoidance and the use of epinephrine whenever susceptible patients are stung.

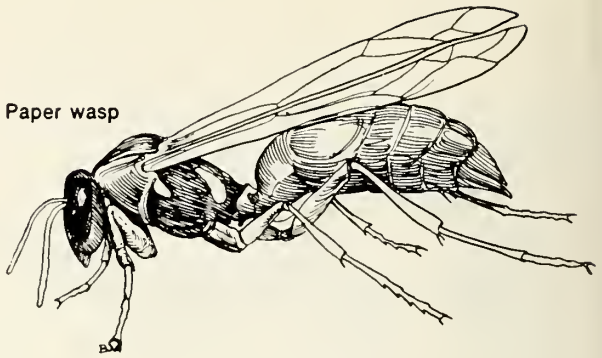


Figure 4

Acknowledgment

Photographs were provided by the *American Family Physician* and Dr. Susan C. Dees.

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Heat Stroke

A Complex Summer Problem

DOUGLAS B. BOGART, M.D., RODNEY W. HILL., M.D., EVERETT M. MURPHY, M.D., *and* MARVIN DUNN, M.D.,
Kansas City, Kansas

BODY TEMPERATURE is maintained within a narrow range by homeostatic mechanisms. However, when the production and absorption of heat exceed the body's capacity to dissipate it, heat illness may result. Under basal conditions, 65 per cent of body heat is lost by radiation, convection, and conduction.[1] These mechanisms may become ineffective when there is a high ambient temperature. Under these circumstances, the primary method of heat loss is sweat evaporation. This mechanism is impaired when there is high humidity or when sweating is reduced. Hence, heat-induced illness is more likely to occur in a hot, humid environment.

Three heat illnesses have been described in literature: heat cramps; heat exhaustion; and heat stroke.[2] Heat cramps occur in well-conditioned individuals as a syndrome of intermittent cramps mainly confined to those muscle groups which have been active. This self-limited problem is due to salt deficiency and responds quickly to sodium chloride (NaCl) replacement.

Heat exhaustion is a more severe form of heat illness, and may be due to primary depletion of either salt or water. Both deficits result in systemic symptoms of thirst, fatigue, weakness, and giddiness. Skeletal muscle cramping is more prominent in the salt-depleted patients and is treated with intravenous salt and water replacement.

Heat stroke is the most severe heat-induced illness and is characterized by hyperpyrexia (temperature of [40.6C]), delirium, coma, and possible anhidrosis. The disease may begin precipitously, and many patients with heat stroke have no prodromal heat cramps or heat exhaustion. Heat stroke is most likely to occur when there has been high environmental temperature (greater than [37.8C]) for several days. Elderly or debilitated individuals are more susceptible to heat stroke.[3-5]

Obesity or chronic diseases, such as diabetes, congestive heart failure and alcoholism, are also predisposing factors.[6, 7] Certain drugs, such as anticholinergics, phenothiazines and antihistamines, may impair sweating and inhibit this vital means of heat dissipation.[8] Alcohol is a vasodilator, and so may facilitate heat absorption in a hot environment. The following case history illustrates the protean nature of this illness and its many life-threatening complications.

From the Department of Medicine, Divisions of Cardiovascular Disease and Chest Medicine, KUMC, 39th and Rainbow, Kansas City, Kansas 66103.

Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

Address reprint requests to Dr. Dunn.

Case Report

A 24-year-old white male was well until three days prior admission to the University of Kansas Medical Center. After spending several days working on a roof

A case of heat illness is presented. Three types of heat illnesses—heat cramps, heat exhaustion, and heat stroke—are delineated.

where the temperature was (42.2C), he noted the onset of weakness, fatigue, and headache. This condition was followed by mild confusion, whereupon he was hospitalized by his private physician. He was noted to be febrile (40.6C), and to have hot, dry skin. A diagnosis of heat stroke was made, and the patient was treated with aspirin, ice packs, and intravenous fluids. After 12 hours of therapy, he was found to be oliguric. He became progressively short of breath and was referred to the University of Kansas Medical Center because of the potential need for renal dialysis. The past medical history, social history, and family history were noncontributory. The review of systems revealed that the patient had sustained a dog bite on his right index finger one week prior to admission. In addition, the patient had an episode of hematemesis and melana during his hospitalization. He was taking no medication and had no allergies.

On examination he was in obvious respiratory distress: blood pressure, 150/90 mm Hg; respirations, 60 per minute; pulse rate, 90 beats per minute; temperature, (40C). There was no jugular venous distension. Diffuse rales and rhonchi were heard in all lung fields. A prominent third heart sound was heard at the apex. There was no hepatosplenomegaly and no edema. There

was gangrene of the distal phalanx of the right index finger. Rectal examination revealed grossly melanotic stool. The patient was disoriented to time, place and person, but he had no focal neurological findings.

Laboratory values upon admission were as follows: urine pH 6; s.g. 1.007; WBC, 10-12 per high-power field (HPF); RBC, 50-75 per HPF; hemoglobin, 4+; myoglobin, 4+; spot urinary electrolytes (after Lasix); Una, 93 mEq/L; Uk, 9 mEq/L; Ucl, 91 mEq/L.

Complete blood count (CBC) results were as follows: hemoglobin 10.4 gm/100 ml; hematocrit reading, 30.4%; WBC 28,600/cu mm, with 69% segs, 25% bands, 2% meta, 3% lymphocytes, 1% monocytes, and a platelet count of 76,000/cu mm. The peripheral smear showed many schistocytes.

Coagulation studies revealed normal results for: prothrombin time, partial thromboplastin time, and fibrinogen titer. The 3-P test result was negative, and the Thrombo-Wellco result was positive.

Blood chemistry results were as follows: blood glucose, 82 mg/100 ml; BUN, 84; creatinine 8.4 mg/100 ml; serum electrolytes (mEq/L): Na 139; K 3.9; Cl, 102; HCO_3, 17.

Liver function was as follows: alkaline phosphatase value and bilirubin values were normal; SGOT, 196 (normal: 35 or less); SGPT, 63 (normal: 35 or less).

Complement titers were normal. The following were all negative: cold and febrile agglutinins; antinuclear antibodies; antiglomerular basement membrane antibodies; LE preparation.

Arterial blood gases on room air were: pO_2 32 mm Hg; pCO_2 21 mm Hg; pH 7.47. Creatine phosphokinase (CPK) was 440 (normal: 50 or less); aldolase, 15 Iu/L (normal: 6 or less).

Hospital Course

Pulmonary edema and acute renal failure were the two major problems threatening this patient (the initial chest x-ray is shown in *Figure 1*). On admission, the blood gases were indicative of profound hypoxemia on room air. On 100 per cent oxygen, the blood gases improved to paO_2 74 mm Hg, $paCO_2$ 27 mm Hg, and pH 7.40. The therapy directed at the pulmonary edema included oxygen, digoxin, morphine, furosemide, and aminophylline. Data obtained from the catheterization of right atrium performed on the second hospital day excluded a cardiac cause for the pulmonary edema, and helped to establish the diagnosis of adult respiratory distress syndrome *(Table I)*.

With this problem and the acute renal failure, it was felt that optimum fluid balance could best be achieved with peritoneal dialysis. The patient tolerated this procedure well, and after 48 hours, a diuresis ensued with a dramatic decline in the BUN and creatinine. A summary of the renal function studies and electrolytes is shown in *Table II*. The marked improvement in the chest x-ray is shown in *Figure 2*. The cause of acute renal failure was acute tubular necrosis secondary to direct heat injury, myoglobinuria, and hypoxia.



Figure 1. Portable chest x-ray taken on admission showing a diffuse 5-lobed alveolar infiltrate.

The patient remained febrile to (103F [39.4C]) during the first four days of his illness. There were no abnormalities in the blood, urine, and sputum cultures. Because of the initial possibility of a secondary bacterial infection, he was treated with clindamycin and gentamicin. These drugs were discontinued when the cultures were negative. The fever was attributed to the underlying heat stroke.

The patient was noted to have thrombocytopenia (platelet count of 76,000/cu mm), schistocytes on the peripheral blood smear, and a positive Thrombo-Wellco test. This laboratory data, plus the presence of a gangrenous right index finger, were indicative of dissemi-

TABLE I

RIGHT HEART CATHETERIZATION DATA

	Measured mm Hg	*Normal (mm Hg)*
Right Atrium	$\overline{10}$	< 5
Right Ventricle	40/8	25/0-5
Pulmonary Artery ...	40/16	25/10
Wedge	$\overline{10}$	$< \overline{12}$

TABLE II

RENAL FUNCTION AND ELECTROLYTES

Hospital Day	mg/100ml BUN	Creatinine	mEq/L Na	K	Cl	CO_2
1	84	8.4	139	3.9	102	17
2 (Dialysis started)	111	10.0	144	3.4	98	22
3	108	8.2	148	3.5	102	30
4 (Dialysis finished)	89	6.6	151	3.4	114	32
6	69	3.3	145	4.5	105	25
11	39	1.9	138	4.9	104	21

nated intravascular coagulation. However, he had a normal prothrombin time, partial thromboplastin time, and fibrinogen titer. The only clinical evidence of bleeding was the initial melana, but this problem subsided with the treatment for heat stroke, and no further evidence of gastrointestinal bleeding was noted. The laboratory abnormalities improved soon after admission, coincidental with the therapy instituted for the heat stroke. No heparin was given. These data are consistent with subclinical disseminated intravascular coagulation.

Despite these serious problems, the patient was discharged after two weeks of hospitalization. The renal and pulmonary function were normal at this time.

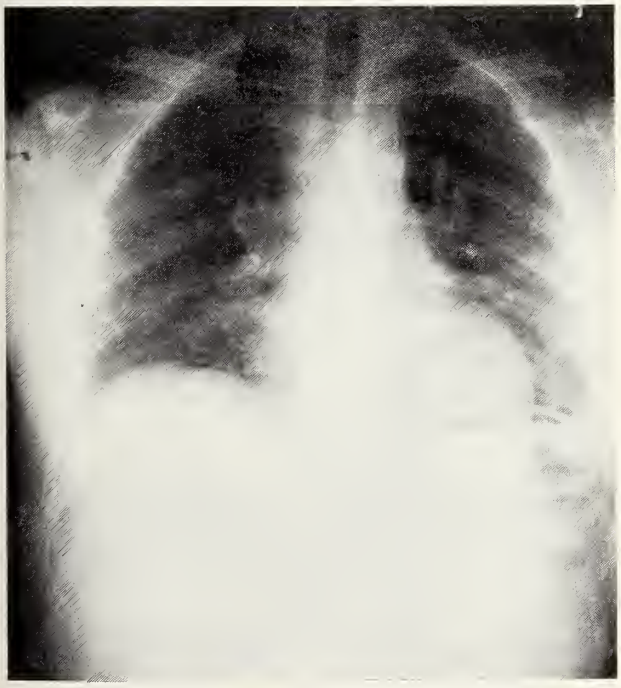


Figure 2. Portable chest x-ray taken on the fourth hospital day demonstrating the dramatic clearing of the infiltrates. The air under the diaphragm is a residual of the peritoneal dialysis.

Discussion

Healthy individuals, as well as the elderly or debilitated, are susceptible to heat stroke. The elderly and the debilitated are frequently unable to increase their intake of salt and water in the face of increased need, and there is a high mortality rate from heat stroke in these categories.[3, 5] Anhidrosis is common in this group and is an important physical finding.[3] There is a high incidence of secondary infection with staphylococcal and gram negative organisms.

Heat stroke also afflicts young, healthy individuals involved in vigorous physical activity in a hot environment, such as military recruits and football players.[9] Anhidrosis may not be noted in these patients.[9] However, extensive rhabdomyolysis is seen, and is thought to contribute to the high incidence of renal failure (25%). In a series of 36 young, healthy males engaged in vigorous physical activity reported by Shibolet, the mortality rate exceeded 20 per cent.[9]

Heat stroke frequently affects the central nervous system, and in one series, 71 per cent of the patients were comatose.[10] There may be focal motor signs, seizures, and cerebellar syndromes which are manifest by ataxia and dysarthria.[11] The neurological defects can be permanent, but the extent of the damage is related to the degree of hyperpyrexia and the degree of circulatory impairment.[11] Although our patient did not have focal neurological signs, he was disoriented to time, place, and person.

Reversible hepatic injury is a common manifestation of heat stroke.[12] Elevated serum glutamic oxaloacetic transaminase, serum glutamic pyruvic transaminase, and direct and indirect bilirubin are common. Liver biopsy reveals centrolobular necrosis. The patients are rarely jaundiced. Our patient had a normal bilirubin level, but elevated SGOT and SGPT, which rapidly returned to normal.

Renal failure may complicate heat stroke in as many as 25 per cent of the patients.[9, 13-16] The precipitating

factors are believed to be hypoxia, dehydration, hypotension, hyperpyrexia, myoglobinuria, and disseminated intravascular coagulation. Generally several of these factors are present. The renal injury is readily reversible if the function is temporarily supported by dialysis. Hyperuricemia is also seen and is probably secondary to tissue destruction, dehydration, increased lactate production, and renal failure.[15] This hyperuricemia is also readily reversible.

Two distinct types of circulatory abnormalities have been described in heat stroke.[17] In the normotensive hyperdynamic type there is a high cardiac index and a low peripheral resistance. This state generally responds to conventional therapy for heat stroke. A more severe type of abnormality is seen in patients with a hypodynamic circulation; for example, a low cardiac index and high peripheral resistance. In addition to the standard therapy, isoproterenol is indicated in these patients after volume expansion is completed. Fluid replacement in these patients is best judged by measuring pulmonary artery wedge pressure with a Swan-Ganz catheter. After volume expansion is completed, isoproterenol should be administered if needed.[3, 17] This agent is of particular value in heat stroke, for in addition to its inotropic and chronotropic effects on the heart, it also acts as a peripheral vasodilator; hence, this agent will facilitate heat loss when the patient is placed in a cool environment. Alpha adrenergic agents should not be used, as they will impede heat loss by causing peripheral vasoconstriction. Our patient did not have hypotension, but did have noncardiac pulmonary edema, in that he had pulmonary edema in the presence of a normal pulmonary wedge pressure. One could hypothesize that the combination of hyperpyrexia and disseminated intravascular coagulation (DIC) damaged the pulmonary capillary bed, giving rise to the adult respiratory distress syndrome.

Disseminated intravascular coagulation is a known complication of heat stroke.[9, 18, 19] It is thought to be initiated by heat-induced damage to the capillary endothelium.[20] Sixty per cent of the patients with heat stroke have abnormal coagulation studies. However, significant bleeding is rare in patients who survive, but non-survivors who are autopsied are found to have widespread hemorrhages in the central nervous system, heart, lungs, liver, and kidneys. Heparin is indicated only if there is clinically significant bleeding.[21] Most patients improve with therapy directed toward the heat stroke.

Vigorous supportive therapy is necessary for all patients with heat stroke.[22] This includes immediate lowering of the body temperature by the use of cooling blankets and vigorous rubbing of the skin with ice. Phenothiazines are useful in preventing the shivering response which impairs the heat loss.

Hypotension must be treated vigorously by adequate volume expansion, and followed by isoproterenol if the patient remains hypotensive.

Conclusion

Early recognition of the individual susceptible to heat stroke is based on analysis of occupation, living conditions, recreational pursuits, medications, and underlying diseases. These patients should be instructed about the symptoms of heat-induced illnesses and about their prevention. This includes adequate rest, maintenance of good hydration, and adequate salt and water intake. With these principles in mind, the devastating consequences of heat stroke can be minimized.

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Snakes and Snakebites

Characteristics, Management and Prognosis

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SELF-DEFENSE is the invariable reason and answer to the question of "Why do snakes bite humans." The venom is the means of obtaining food for venomous snakes. They rely on their protective coloration and, in the case of the rattlesnake, the rattle is used as a protective device. The snake will bite as a last resort, although many venomous snakes may be stepped on or traumatized without their biting.

Varieties of Poisonous Snakes

The venom separates snakes into two primary categories: hematoxic and neurotoxic, although there are some venoms with both constituents. The hematoxic venomous snakes in this country are represented by members of the pit viper group, which include all variants of rattlesnakes, copperheads, and moccasins. The neurotoxic group consists of the various types of coral snakes.

The venom in the pit viper is produced by two modified salivary glands along the maxilla. From there the ducts extend cephalad to the fangs, which are hollow with the ducts extending through to an opening on the anterior surface near the tip of the fang. The fangs are retracted with the tip extending caudally along the maxilla, as if hinged, when the snake is not aroused, but then swing forward when biting. In the neurotoxic snake the fangs are quite short, with grooves extending their length for injection of the venom. To inject much venom, the neurotoxic snake must often chew to inflict multiple wounds for greater absorption of the venom. Most snakes can effectively strike about half their length on open ground, but their range is markedly reduced by brush or foliage.

Snakes do not use sight alone in finding prey or biting victims. The pit, or depression, located on either side between the nostril and eye in the pit viper, contains sensory devices which can detect radiant heat at distances of up to 8 feet. Other nonvenomous snakes, such as the python or boa, have similar heat detection organs in modified lip scales. This mechanism makes them equally dangerous at night.

Another sensory organ, known as Jacobson's organ, lies on either side of the snout. These consist of two cavities lined with sensory endings similar to but not replacing the olfactory apparatus. The rapidly protruding tongue picks up microscopic particles from the air, and these are delivered to the ducts of the Jacobson's organ in the roof of the oral cavity. This remarkable organ allows the snake to follow its victim, who may go a prolonged distance after being bitten.

The effects of snakebite depend upon the type of snake, the amount of venom injected in comparison to body weight, and the rapidity and type of treatment.

Varieties of poisonous snakes and the treatment of snake bites are described. Snake bites are classified into four grades of severity.

The loss of limb rather than life is the consequence of many snake bites today. The majority of victims have no residual whatsoever, and may not require treatment. Many times the loss of limb is the result of overzealous misdirected therapy, such as prolonged use of tourniquets occluding arterial flow and prolonged cryotherapy (packing the extremity in ice).

Of the approximately 7,000 poisonous snake bites in the United States each year, 98 per cent are by pit vipers. Of these bites, 96 per cent are on the extremities. Eighty-six per cent of the bite victims are males. The lower extremity is recipient of two-thirds to three-fourths of the bites, primarily on the dorsum of the foot and the ankle. The fingers and the thumb are the most common site of bites in the upper extremity. The average time between bite and treatment at a hospital is about 30 minutes.

The fatality rate from snake bites in the United States is steadily decreasing, reflecting more adequate treatment. In 1968 and 1969, the rate was 1 per cent from pit vipers and 0.5 per cent from coral snakes. There has been only one reported death since 1969, in an individual who was bitten during a religious ceremony and did not report for treatment. The low incidence rate is even more remarkable when one considers that the number of snake bites has more than doubled since 1968.

In the eastern states the most common culprit is the copperhead, with the rattler most often indicated in

Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

Address reprint requests to Dr. Hopkins.

Florida, Texas, and the southwestern states. Of the total fatalities, 70 per cent are due to diamondback rattlers, and 40 per cent of these are in children or individuals under 20 years of age. Eighty per cent of the deaths occur more than six hours after bite. The most venomous snakes are the Eastern and Western Diamondback rattlers, largely because of the large amount of venom secreted. A large pit viper may inject as much as 100 mg of venom. The median lethal dose (LD_{50}) in a dog with a subcutaneous injection is 2 mg/kg, and is probably less in a human being. In the coral snake, the amount of venom injected is 4-13 mg, with LD_{50} in dogs being 0.3 mg/kg.

The amount of venom injected is not consistent. It is estimated that in 25 per cent of bites little or no venom is injected, and that better than 50 per cent of those bitten require no treatment. The amount of venom injected on successive bites does not decrease in volume, as evidenced by studies utilizing I^{125} or I^{133}. In consecutive bites within one hour of each other, there was no depreciable dimunition in the amount of venom injected.

Treatment

The value of rapidity of treatment is the ability to retrieve the venom before it has marked local or systemic effects. In studies performed in recent years using I^{131} tagged venom, it has been shown that less than one-fourth of the venom leaves the bitten extremity in two hours after the bite, making most of the venom retrievable after a prolonged period of time. Simple incision at the wound results in a loss of 16 per cent of the venom. Local suction may retrieve 50 per cent of the venom. Excision of the wound within one hour will result in 80 per cent removal of the venom. Prolonged suction of the wound for longer than 30 minutes decreases survival times in animals, however.

Before examining the local and systemic effects of the venom of hemotoxic and neurotoxic snakes, it is advantageous to examine more closely the complex chemical constituents of venom and their individual effect upon the victim. Snake venom is a heterogenous mixture of low molecular weight complex protein substances, which appear to act primarily on enzymes. These can be divided into the following groups:

1. Hemolytic agents—primarily due to a phospholipidase which has its effect on the phospholipids in the platelets and WBCs, converting them to lysophospholipids which are powerful hemolysins. This can cause marked platelet consumption and secondary coagulation problems;

2. Proteolytic enzymes—acid and alkaline phosphatase, peptidase, acetylcholinesterase, hydrolase, and primarily proteases which are responsible for the local tissue destruction and edema, and possible increase in subfascial tension (sometimes great enough to cause loss of arterial and venous flow with subsequent gangrene, tissue slough, and secondary infection). The breakdown products of the protein digestion may lead to shock, hepatic, renal, and myocardial failure.

3. Spreading agents—primarily hyaluronidase, which enhances the dissemination of the venom.

4. Coagulation effects—in some venoms (Russell's viper) the venom acts directly on Factor X (Stuart Factor), resulting in rapid conversion of prothrombin to thrombin and subsequent coagulation and intravascular thrombosis. This effect may be locally beneficial in inhibiting the absorption of the venom, although it appears most of the venom is absorbed via the lymphatics.

5. Anticoagulation effects—Arvin is an anticoagulant extracted from the venom of the Malayan pit viper, which acts by preventing the conversion of fibrinogen to fibrin.

6. Neurotoxic effects—19 of these have been identified. The primary agent is cholinesterase, which blocks neural function at cholinergic synapses and at the myoneural junction. Most others have their primary effects on bulbar and spinal ganglia. The result is fasciculation, or muscle tremor; generalized muscle weakness; drowsiness; painful muscle cramps; vertigo; and occasionally bloody urine. In lethally injected animals there is vomiting, almost universal salivation, defecation, and a parasympathetic stimulation picture resulting in generalized paralysis and a cessation of spontaneous respiration. There is also central fixation of the pupils. The venom of the Diamondback rattler, although considered hematoxic, has some neurotoxic effects.

The laboratory findings in patients bitten by pit vipers are as follows:

Mulberry appearance of "burring" of erythrocytes (90%);
Urine may contain RBCs or free Hgb;
Platelet count may be markedly depressed (24%);
Fibrinogen levels may be low (33%);
Hypoprothrombinemia—decreased prothrombin activity (50%);
Anemia (about 8%).

Classification of Bites

To further aid in the treatment of hematoxic snake bites, a classification of pit viper bites has been developed by several authors—primarily by Woods, Hoback, and Green—as follows:

Grade 0—fang wounds with no local pain, swelling, or discoloration.

Grade 1 (minimal)—fang marks with throbbing or

moderate pain at site of bite with swelling extending not more than a few inches from the wound, with no systemic signs or symptoms after 12 hours.

Grade 2 (moderate)—pain and swelling more extensive than in Grade 1, progressing toward the trunk (usually about halfway) within the first 12 hours; discoloration restricted to the area of swelling; systemic signs of weakness, dizziness, nausea, and vomiting. May have continuous local ooze from the wound.

Grade 3 (severe)—may initially resemble Grades 1 or 2 on admission, or may be shocky within a few minutes of envenomation. Local symptoms progress rapidly and swelling may involve entire extremity and part of trunk within 12 hours. The discoloration frequently becomes generalized and the patient may appear shocky with subnormal temperature, weak and thready pulse.

Grade 4 (very severe)—sudden onset of pain and rapid progression of local edema proximally followed by ecchymoses and marked subcutaneous tension secondary to edema, with bleb formation on the skin and possible rupture of the skin. Extreme tension beneath closed fascial planes may cut off venous and arterial flow with subsequent ischemia and gangrene. Secondary infection usually follows. Systemic signs of weakness, numbness, vertigo, perioral numbness and tingling, muscle fasciculation and cramping are present. Blindness or yellow vision may occur secondary to retinal hemorrhage. Bladder and fecal incontinence may be present. Disseminated intravascular coagulation (DIC) is a distinct possibility. Shock is usually present and may lead to renal, hepatic, and myocardial failure. Convulsions are not uncommon in children, and coma and death may ensue within 30 minutes of the bite.

Coral Snakes

The bite of the neurotoxic coral snake shows much different symptomatology and physical findings. There is very little local pain, edema, or ecchymosis at the site of envenomation. As much as 10 hours may ensue before onset of systemic findings. Initial symptoms usually are euphoria or drowsiness followed by almost universal salivation. Tremor and convulsions often occur in children during the first hour. This is followed by progressive bulbar paralysis with ptosis, fixed contracted pupils, dysphagia, and dysphonia. Victims usually die of respiratory paralysis. Death occurs within 24 hours, if at all.

Treatment of Hemotoxic Bites

Many rituals have been pursued through the years, but in recent times therapy has been on a more rational basis and many of the older methods have been abandoned. Overzealous and misdirected emergency and definitive treatment has been much of the problem in the past (such as the belief that the best emergency treatment is the application of a tourniquet, tight enough to occlude the lymphatic and venous return but not so tight as to affect arterial circulation). The tourniquet should be applied as close to the wound on the proximal side as possible.

Tourniquets applied too tightly or packing the extremity in ice have no beneficial effects and have often resulted in loss of the extremity. Limiting the mobility of the patient and getting him to a medical facility as quickly as possible are important. If no such facility is available within a few hours, the incision of each fang mark and suction are indicated. The suction should not be continued past 30 minutes. The depth of the incision should not exceed the distance between fang marks. Tendons, large vessels, and nerves should be left intact.

On arrival at the emergency room the following procedures should be carried out:

1. Draw blood for a complete blood count, coagulation profile and, most important, for crossmatch (crossmatch may be extremely difficult after dissemination of the venom). Electrolytes may be necessary because of loss of fluid secondary to local edema, hyperkalemia—which often occurs with significant hemolysis, and the problems that occur with shock and subsequent possible renal shutdown.
2. Skin testing for sensitivity to horse serum should be done.
3. Start a large IV or intracatheter in the extremity other than the envenomated one.
4. Make sure airway, endotracheal tube, respirator are available.
5. Arrange for hospitalization for at least 24 hours.
6. Grade the bite for subsequent treatment.
7. Provide tetanus prophylaxis.
8. Broad spectrum antibiotics are especially effective against gram-negative organisms.
9. Monitor vital signs.
10. Observe for bleeding diathesis.
11. Check pulse and circulation in extremity distal to the wound.
12. Nothing by mouth.
13. Excision of the wound: Elevate a skin flap with excision of all ecchymotic subcutaneous tissue. If this is not possible, excise the skin and the subcutaneous tissue and apply a defatted graft. All large vessels, tendons, and nerves must be left intact.
14. Antivenin is given to those with systemic manifestations, and the dosage is dependent upon gradation of the bite and progress of the patient. It should be given only after skin testing. Local injections of antivenin around the fang marks are of little to no value.

Intramuscular injection results in only 1.43 per cent of the antivenin reaching the wound, whereas intravenous administration shows 84.9 per cent of antivenin to be localized at the wound within two hours. There is no evidence that antivenin has any effect on local tissue necrosis, so it is not a substitute for excision. The antivenin is given in normal saline or Ringer's lactate. The precise amounts are of no consequence, but must be sufficient. If anaphylaxis is to occur in spite of skin testing, it will occur promptly or not at all. If such should occur, the antivenin should be stopped immediately and adrenalin or other supportive measures undertaken. If antivenin is given after 24 hours from initial dose, skin testing should be performed again, since sensitization may have taken place. Serum sickness occurs in about 75 per cent of those receiving antivenin, usually 6-24 days after administration. The symptoms are malaise, fever, lymphadenopathy, arthralgia, and urticaria. Neurological signs, such as meningismus or peripheral neuropathy, may occur. The neuropathy is usually in the upper extremity and is manifested by pain and muscle weakness, Cortisone has been beneficial in the treatment of the serum sickness. The amount of antivenin usually recommended is 2-4 vials for Grade 2 (although some feel that this may not be necessary), not less than 5 vials for Grade 3, and 10-20 vials for Grade 4. More may have to be given if progression of systemic signs and symptoms after one-half to two hours is noted.

15. Pain medication may be administered as needed.

16. Fasciotomies have been frequently used in the past but less so today, primarily because the local effects have not been as severe with more effective local removal of the venom and the fact that they are not done until subfascial tension has become great enough to occlude arterial circulation.

17. Do not use cortisone or antihistamines. Cortisone inhibits the antivenin-venom reaction and antihistamines seem to potentiate the effects of the venom. Alcohol is not of any value and may further complicate the problems.

18. Shock is treated by administration of balanced electrolyte solutions, plasma, and blood when indicated.

19. Tracheostomy or ventilator may be necessary.

Treatment of Neurotoxic Bites

In coral snake bites, the local reaction is minimal. One should watch for systemic signs of euphoria, weakness, dizziness, confusion, vomiting, salivation, or hematuria. These indicate significant envenomation. In such cases, 5-6 vials of specific coral snake antivenin should be given intravenously as rapidly as possible. Such a dose should be sufficient to neutralize the maximal injection of venom possible in a coral snakebite. Intubation, tracheostomy, and respirator may be necessary. Barbiturates should not be given; they may hasten the respiratory paralysis. If the patient survives the first 24 hours, death is not likely to ensue.

Summary

The treatment concepts of poisonous snakebites are changing. The present negligible mortality rate in treated patients in this country during the past five-six years reflects the effectiveness of present methods. Even the loss of limb and function of envenomated extremity have been reduced to a minimum.

Drowning

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Name Your Poison

Poisonous Plants and Pesticides

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SPRING, SUMMER, AND FALL bring out the beauty of the land. These seasons, although most enjoyable, also bring with them certain health hazards that must be dealt with, usually on an emergency basis.

It is unfortunate that persons literally graze in the forest, meadows, and gardens without knowing what it is they are eating. Young children are the most prone to do this; after all, they see Yule Gibbons doing it on TV, so "why can't they do likewise?"

Also, the very wide use of pesticides and herbicides during the spring and summer months not only produce a hazard with their use, but an even greater hazard with their storage. The misuse and the careless and uninformed use of these products probably accounts for most of the incidence of toxicity. The old cliche, "If all else fails read the directions," is certainly apropos in most cases of toxicity from pesticides and herbicides.

Plant constituents cause a very wide variety of toxic manifestations, while completely unrelated species may produce similar toxic signs, even though the toxic principles may be different. Therefore, in this presentation we will categorize toxic plants according to toxic signs seen, instead of by genera and species. (However, some plants produce more than one type of toxicity, so that our type of classification is very superficial.)

Plants Producing Gastrointestinal Distress

Narcissus species: daffodil, jonquil and narcissus. The bulbs contain active principles which cause severe diarrhea. Occasionally, these symptoms are accompanied by nervous symptoms which include trembling and even convulsions.[1] Poisoning in humans have been reported from the ingestion of small amounts of the bulb. Apparently, the flowering stalks are also somewhat toxic. At Children's Mercy Hospital, we have seen at least two instances of severe gastric distress in small children from eating the flower and stems.

Phytolacca americana: pokeweed, scoke, pigeonberry. A large perennial herb up to 9 feet tall, with stout purple or green stems. Small greenish-white flowers in clusters somewhat similar to grapes. The green fruit turns into shiny purple berries, each containing ten seeds. The plant flourishes all over the eastern United States and southeastern Canada. It is also found in the midwestern part of the US, growing in fence rows, low areas, or in rich soil. The plant contains poisonous principles of which the exact chemical identity is unknown. The plant is commonly used and eaten as greens in early spring. Fortunately, the most toxic part of the plant is underground. The ripe berries are the most attractive part of the plant and are the least toxic, but they can cause human fatalities.[2, 3]

Toxic plants are categorized according to toxic signs they cause.

Human symptoms following consumption consist of a burning sensation in the mouth usually followed by gastrointestinal signs, local hemorrhage, cramps, vomiting, diarrhea, visual disturbance, salivation, perspiration, lassitude, and prostration. Weakened respiration and pulse may be noted. Recovery usually occurs within 24 hours, however, two cases have terminated fatally.

Ricinus communis: castor bean. A large annual plant, with large, showy green, dark to medium-dark leaves, grayish-green underneath. Stems are large and woody, grayish-green in color. All parts of the plant are probably toxic, however, the seed appears to have the largest amount of ricin, which is the phytotoxin responsible for the toxicity.[4, 5] The toxin is heat labile, and is probably rather poorly absorbed by the digestive tract. In the case of whole seeds, the degree of mastication and digestion determines somewhat the amount available for absorption. In humans the seed produces a burning sensation in the mouth and throat, then gastrointestinal irritation, and pain; diarrhea and weakness are also common with ingestion. Diarrhea may contain blood. Lesions may develop which consist of inflammation and punctiform hemorrhage of the mucosal lining of the digestive tract.

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Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

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Liver and kidneys are swollen and edematous. The lungs may contain fluid. There may be irreversible cellular damage to the kidneys or the liver.

Mistletoe: The entire plant of the mistletoe is poisonous, however, the berries are the part most usually ingested. The plant contains beta-phenyl, ethylamine, and tryamine. Ingestion is followed by severe gastrointestinal irritation and, in severe poisoning, cardiovascular collapse may occur.

Many other plants, such as black locust, lantana and May apple, cause gastrointestinal irritation.

Plants Producing Cardiac Depression

Lily of the valley: One of the most commonly grown plants in flower gardens, it has small, white, bell-shaped flowers that are quite fragrant. These mature into red berries. The plants persist almost everywhere, and once established may outlast many old home sites. They can also exist in the wild. It is one of the oldest known toxic plants containing material named convallarin (Walz 1858). The toxic material is a glycoside and is quite digitalis-like.

Veratrum species (false hellebore): corn lily, skunk cabbage, *V. californicum.*

Veratrum viride: white hellebore, Indian poke. Both varieties are quite similar; the corn lily has whitish flowers and *V. viride* has greenish-white flowers. *V. viride* is more widespread, being found throughout North America in almost any low, moist area. *V. californicum* is found in higher mountain valleys of the Rocky Mountains and the Pacific Coast areas.

The poisonous principles were isolated in the 1950s, and were identified as alkaloids.[7] Some of the alkaloids have hypotensive properties because of their ability to produce dilatation of the arterioles, together with constriction of the venous vascular bed. This is accompanied by a decrease of the heart rate. A good review of the *veratrum* alkaloids was prepared by Jeger and Prelog.[8]

Toxicity occurs in humans from the misuse of medical preparations or the consumption of the plant as a green vegetable.[9] Despite the great variation in the alkaloidal content, these plants all produce remarkably constant symptoms in acute poisonings. These symptoms consist of salivation, prostration, depressed heart action, dyspnea, burning sensation of the mouth and throat, hallucinations, and headaches. Congenital malformations have been noted in sheep from eating *V. californicum.*[10]

Oleander: An ornamental evergreen shrub of the southern climate which is grown as a house plant in colder climates. The plant produces two cardiac glycosides (oleandoside and nerioside) which are found in all parts of the plant. Signs of toxicity are similar to those of digitalis.[11] Severe gastroenteritis follows ingestion of leaves, stem, flower, or sap. Other symptoms may include increased pulse rate, cold extremities, dilated pupils, sweating, anorexia, abdominal pain, nausea, vomiting, weakness, bloody feces, dizziness, and drowsiness. The pulse becomes weak and irregular in terminal stages, and dyspnea and coma are common.[12] Treatment is the same as for digitalis poisoning.

Taxus species: Yew, ground hemlock (Japanese Yew, English Yew, Western Yew, and Marsh Yew). Evergreen tree or shrub, with reddish-brown bark, thin flaking in scales; leaves are linear and stiff, one-half to one inch in length. The fruit is composed of a single stony seed surrounded by a bright scarlet, fleshy, ovoid cup. Many horticultural varieties are used in landscaping.

Taxus baccata (English Yew) is considered the most toxic plant in England.[13] All parts of the plant are toxic. The fleshy part of the fruit is possibly the least toxic and the seeds are the most toxic. The toxic principle is identified as taxine (an alkaloid), which may cause slowing of the heart with an arrest in diastole. Circulatory failure has also been noted. In nonfatal or subacute intoxication gastroenteritis and diarrhea have been noted.

Plants Producing Belladonna Alkaloid Toxicity

Datura species: D. stramonium, thornapple, jimson weed, Jamestown weed, moonflower, and apple of Peru. There are possibly 20 or more names for this plant. There are dozens of species in the genus which are scattered throughout the world. They are large plants up to 5 feet high, a coarse annual herb with large leaves and showy fragrant tubular flowers (very much like a trumpet). These plants reproduce by seed, inhabiting waste areas, especially in rich soil. Flowers may be white or purple. All species of the plant contain solanaceous alkaloids, principally hyoscyamine (atropine) and hyoscine (scopolamine). Seeds are harvested and used by certain individuals, sold or referred to as Aster Seeds. The ingestion of any part of the plant or the seeds bring on classical symptoms of belladonna alkaloid poisoning.[14-16]

The signs, hot as fire; dry as a desert; red as a beet; wild as a hare; and mad as a wet hen, are all well known symptoms that any second-year medical student knows describes belladonna alkaloid poisoning.

The premonitory symptoms include thirst, visual disturbance from mydriasis, flushed skin, hyperirritability of the CNS, temperature elevation, and a rapid but weak heartbeat. Sometimes the individual is delirious, incoherent, or violent. All symptoms can be alleviated by the administration of physostigmine 1-3 mg as needed.

Plants Producing Irritation and Edema of the Oral Cavity

Dieffenbachia: Philodendron. Both species are members of the genus *araceae* and contain irritant properties, as do Elephant ear, Jack-in-the-pulpit, and Caladiums. All contain microscopic calcium oxalate crystals in their tissues which produce irritation to mouth and tongue. Philodendron poisoning in cats, including death, is well known.[17] Humans normally do not eat this plant, however, mouth irritation and glottic edema with suffocation are a possibility. Biting into or chewing this group of plants rapidly produces irritation and burning of the surface of the mouth, tongue, and lips. Salivation is profuse and the edematous swelling may cause the tongue to be immobile. The edema may interfere with swallowing and breathing. The symptoms may last for several days.

Snow-on-the-mountain, Euphorbiaceae (wild poinsettia) may also produce irritation of the oral cavity. The juice of these plants is a vesicant.

Plants Producing CNS Depression

Solanum species: Nightshade, bittersweet, potato, and Jerusalem cherry represent a large genus of some 1,500 species, the most common of which are solanum carolinense (horse nettle) and solanum dulcamara (bittersweet). Horse nettle or bull nettle is a perennial plant, one-half to two feet tall with gray-green leaves and stems bearing yellowish spines. The flowers are pale violet or white, which mature into yellow berries that resemble small, green tomatoes which turn yellow when ripe. It is a common weed of cultivation and wasteland.

Bittersweet or climbing nightshade is a perennial woody-trailing plant up to 6 feet in length. Deep purple or blue flowers are followed by green berries that turn red or red-orange at maturity. This plant grows throughout North America.

The solanine content of the solanum species concentrates on maturing. Other glycoalkaloids apparently are present in other species, but the symptoms from acute poisoning in all species appear to be rather uniform.[18, 19] The symptoms appear to be related to whether the glycoalkaloids are broken down and absorbed.[20] The presence of the toxic principles in the gastrointestinal tract produces irritation, while the absorbed principle produces major CNS symptoms. Central nervous system symptoms include apathy, drowsiness, salivation, dyspnea, trembling, weakness progressing to paralysis, prostration, and unconsciousness. Pupils may or may not be dilated. Stupefaction and loss of sensation are common. Gastrointestinal effects may be mild or severe and may include vomiting, diarrhea (sometimes with blood) or constipation, anorexia, nausea, and pain. In humans, poisoning is almost always acute from eating the berries. The potato sprout and tomato vine contain the same material.[21]

Cicuta maculata: Poison parsnip, wild parsnip, beaver poison, muskrat weed, fever root, etc.[22, 23] Some botanists consider this to be the most poisonous plant in the temperate zones of the Northern Hemisphere. The root resembles those of the dahlia, and grows basically along streams or swampy wet habitats. The toxic principle is thought to be associated with the yellowish-oily liquid found basically in the thickened root or rootstock and in only a small amount in the stems. The toxic principle is commonly called cicutoxin.

Symptoms after ingestion include CNS stimulation, salivation, extreme violent convulsions, abdominal pain, grinding of the teeth, dilated pupils, and temperature elevation. Delirium is seen in humans, and nausea is common. Vomiting in humans may be considered as a good prognosis and is helpful in removing the material. In terminal poisonings, the periods of relaxation between seizures become shorter and shorter, until death due to respiratory failure occurs.

Conium maculatum: Poison hemlock (California or Nebraska fern). The plant root resembles wild carrot (daucus carota) and is sometimes mistakenly eaten for the same. It may also be mistaken for wild parsley or anise. The plant is coarse and erect, 4-8 feet tall, and in rich moist soil it may grow up to 10 feet. Flowers are small, white, umbellate clusters. The stem and leaves have a fern-like appearance.

There are at least five poisonous principles in the plant related to coniine. The vegetative plant contains coniine, while the mature plant and seeds contain n-methyl coniine. The poisonous principles apparently were in the concoction that was used to put Socrates to death.

Symptoms usually appear soon after the ingestion and resemble the symptoms of nicotine poisoning, to which the conium alkaloids are chemically related. A period of transitory stimulation occurs, followed by severe depression of CNS, which progresses to paralysis, coma, slowing heart rate, and death.

Plants Producing Cyanide Poisoning

Apples (apple seeds), wild cherry, wild black cherry, peach, cherry, apricot, and cherry laurels all contain cyanogenetic potentials. Apple poisoning in cattle is common, however, man must eat a large volume of apple seeds to be toxic. There is one report of a death from eating a cup of apple seeds. Death was due to the release of cyanide on digestion of the seeds. Many species of the genus *prunus* contain cyanogenetic glycosides

in the bark, young twigs, leaves, and pits. Peach pits and apricot pits may contain as much as 164 mg/100 gm to 275 mg/100 gm of cyanide respectively.[24, 25] Wild black cherry leaves may contain 212 mg/100 gm of hydrocyanic acid, while peach leaves contain only about 66 mg/100 gm. The fruits of these plants are edible and cause no problems unless the pits or stones are eaten.

Symptoms are those of classical cyanide poisoning. Minimal toxicity stimulates respiration, while severe toxicity depresses it. The cyanide ion affects the cerebral oxidation, and brain activity decreases. The effects of the cyanide ion are usually described as a functional decerebration resulting in unconsciousness and convulsions. Activity on the cardiovascular system resembles hypoxia and the effects on the myocardium are the most prominent symptoms. Treatment of plant poisonings yielding cyanide is the same as for hydrocyanic acid.

Elderberry or black elder can produce the same symptoms. Symptoms of anxiety, confusion, vertigo, giddiness, hypernea, and dyspnea are often seen. Respirations become very rapid, then slow and irregular. Inspiration is usually short while expiration is long. Sometimes a characteristic odor of bitter almond is noted on the breath. Vasomotor activity increases early and the heart rate slows. Thereafter, the pulse becomes rapid, irregular, and weak. Unconsciousness is usually followed by violent convulsions which are epileptiform and tonic. They are sometimes generalized and sometimes localized. Death is usually due to respiratory failure.

Plants Producing Contact Dermatitis

Many persons show sensitivity to plant sap, pollen, etc. No plants are as potent as the *Rhus* toxicodendron:

R. radicans—poison ivy, poison vine;
R. diversilobum—Western poison oak;
R. quercifolium—Eastern poison oak;
R. vernix—poison sumac, poison elder.

Poison ivy is a vigorous woody vine or shrub with trifoliolate alternate leaves. Many varieties and subspecies probably exist.[26] The plant usually is ubiquitous but prefers bottom lands, lake shores, and flood plains. It is seldom found in hickory and oak woods.

In susceptible individuals, it produces a contact dermatitis upon contact with broken parts of the plant or with articles or implements that have come in contact with the broken plant parts. Apparently, unbroken leaves and stems do not give off the poisonous exudate. Burning the plant can be dangerous, as the toxic material may be carried in the smoke. Dried plants may also give off the toxic principle. The toxin is colorless or milky substance contained in the resin canal throughout the plant. The pollen of the plant contains no poison.

The toxic syndrome is a contact dermatitis which manifests itself as reddened and itchy skin in mild cases, to blisters which exude serum in most severe cases. The mucosa of the gastrointestinal tract can be affected as a result of the ingestion of parts of the plant. Contact with the plant or a secondary carrier is thought to be necessary for the toxicity. The lymph from lesions apparently does not infect new areas.

Poison oaks: the Western variety grows on the western slopes of the Rocky Mountains and the Pacific Coast. The Eastern variety grows from the East Coast to the Great Plains including Kansas, Missouri, and Oklahoma. Eastern poison oak never climbs or produces aerial roots. The poisonous reaction is the same as that of poison ivy. Poison ivy and poison oak sometimes hybridize giving a peculiar plant.

Poison sumac: a rangy shrub growing up to 15 feet high. The plant has a compound leaf with 11 leaflets. The rachis is bright red, and the bright green leaves have no teeth on their margin. This distinguishes this species from the nonpoisonous staghorn sumac. Although found usually east of the Mississippi River, it is known in some of the bogs or swamps of the central United States. The poisonous response is similar to that of poison ivy and poison oak. Treatment varies as to severity. Systemic and topical steroids are usually considered.

Insecticides and Herbicides

The acute toxicity of insecticides and herbicides is a continuous problem, however, the incidence rises sharply in spring and summer. Most insecticides causing acute toxicity can be placed into two rather broad categories: Chlorinated hydrocarbon derivatives; and Cholinesterase inhibitors.

The herbicides usually are: (1) halogen derivatives of phenoxyacetic acid (esters of halogenated phenoxyacetic acid); (2) triazine derivatives; (3) alkyl urea derivatives; or (4) metallic salts derivatives.

The more prevalent halogenated hydrocarbons used as insecticides include the chlorobenzene, indane and camphene derivatives, while the cholinesterase inhibitors are either pyrophosphates or carbamates.[28]

1. Chlorobenzene derivatives include:
 DDT (dichloro-diphenyl-trichloro-ethane)
 TDE (tetra chloro-diphenyl-ethane)
 DFDT (difluoro-diphenyl-trichloro-ethane)
 Dimite (dichloro-diphenyl-ethane)
 DMC (dichloro-diphenyl methyl carbinol)
 Methoxychlor
 Neotrane
 Ovotran
 Dilan
2. Indane derivatives include:

Chlordane
Heptachlor
Aldrin
Dieldrin
Endrin

3. Benzenehexachloride:
 Lindane
4. Chlorinated camphene (probably the most toxic halogenated hydrocarbon used):
 Toxaphene

The chlorinated hydrocarbon insecticides produce symptoms that are similar—nausea, vomiting, CNS stimulation, perspiration, confusion, malaise, and apprehension. Some produce tremors, irregular pulse, hepatic and renal damage. All agents increase the myocardial sensitivity to beta adrenergic stimulants.

Cholinesterase inhibitor insecticides are:

Pyrophosphates (organophosphates esters)
Chlorothion
Diazinon
Malathion
Metacide
OMPA
Para-oxon
Parathion
Systox
TEPP
Carbamates
Carbaryl (Sevin)
Baygon

These insecticides inhibit cholinesterase and cause a myriad of systemic effects.[29] The symptoms include vomiting, diarrhea, abdominal pain, fecal incontinence, tightness in the chest, increased bronchial secretions, pulmonary edema, sweating, salivation, tearing, pinpoint pupils, bradycardia, incoordination, muscle twitches, tremors, weakness, paralysis, pallor, and occasionally hypertension.

Test doses of atropine should relieve the muscarinic effects. Treatment for both is restoration of respiration, then large doses of atropine with organophosphate toxicity (add PAM to regimen).

The herbicides exhibit less of a toxic threat than do the insecticides, however, there is a potential for toxicity in most formulations. Chlorophenoxyacetic acid herbicides produce anorexia, diarrhea, CNS depression, weakness, myotonia, coma, and possibly sudden death due to ventricular fibrillation. Mild renal and kidney damage are also possible.

Triazine derivatives have produced no documented toxicity in man. Animal studies indicate that there is a potential for ataxia, dyspnea, convulsions, weakness, and collapse.

Alkyl urea herbicides include Monuron (3-p-chlorophenyl 1, 1-dimethyl urea). No known toxicity in man, however, chronic or acute ingestion has a potential for the production of methemoglobinemia, because the metabolic product of monuron is p-chloroaniline.

A large number of chemical derivatives of borates and chlorates are used as herbicides. These products show the toxicity of the inorganic chemicals and are more toxic than the organic herbicides. They are frequently found in formulations at such level as to be corrosive if ingested or inhaled.

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(Continued on page 204)

That Innocent Freckle

Pigmented Cutaneous Lesions

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DERMATOLOGY has its own jargon, as do other specialties, so that an explanation of some terms is in order.

Hyperpigmentation is often used synonymously with melanosis, and indicates an increase in the amount of melanin pigment found histologically in the basal cell layer or in the papillary dermis. It is a condition found in Addison's disease, chloasma, café au lait spots, fixed drug eruptions, and in healed areas which were severely inflamed (so-called post-inflammatory hyperpigmentation).

Melanin is somewhat more difficult to define since this insoluble polymer, formed from tyrosine, has never been isolated and analyzed chemically. Melanin is actually formed in *melanosomes,* organelles of specialized cells of the skin called *melanocytes.* These specialized secretory unicellular glands in the epidermis are peculiar in that they are unlike the cells surrounding them; they have no similarity to the surface epithelium. Instead, they mimic the cells of their origin—the neuralectoderm—nerve cells with dendritic cytoplasmic projections. Melanocytes do not conduct impulses; their sole function is to produce and then secrete melanin into the surrounding keratinocytes by means of their dendrites.

Melanophages are specialized histiocytes found in the dermis, which have engulfed melanin pigment. They lack dendritic processes and display no tyrosinase activity. *Nevus cells* are atypical melanocytes which have lost their dendrites and their dependence upon the epidermis. They tend to form groups or nests called theques, recognized microscopically as strands or cords. Nevus is a term synonymous with the lay expression mole.

As mentioned, melanocytes are neural crest derivatives which enter the skin secondarily in the third fetal month, and by the time of birth have settled in hair bulbs and the basement membrane zone of the skin. Some do not migrate this quickly, and in some cases they never penetrate the surface epithelium. Very late in fetal life, indeed at birth, melanocytes in a mid-dermal location can still be found in the scalp, sacral area, and the dorsum of the hands and feet. Groups of these cellular remnants can be clinically appreciated as diffuse blue spots. The lumbosacral or mongolian spot, found primarily in orientals and American blacks, is an example of dermal melanocytosis. The entire group of pigmented cells found in the skin, retina, and meninges constitutes a cellular system called the Human Melanocyte System.[1]

Chloasma occurs almost solely on the areas exposed to light, such as the face—namely the forehead, cheeks, and upper lip—during pregnancy, or in those women taking oral contraceptives. (Due to the infeasibility of publishing colored plates of each entity discussed, the reader is referred to the atlases in *Dermatology in General Medicine,* T. Fitzpatrick, *et al.* (ed.). New York, McGraw-Hill, 1971.)

Various types of pigmented lesions are described.

Ephelides or freckles are circumscribed macules which also appear on the exposed surfaces and darken on sun exposure. They usually make their appearance within the first three years of life. Histologically the melanocytes are hyperactive; there is an increased amount of melanin in the basal layers of a normal appearing epidermis. A pathological form of freckling occurs in the Peutz-Jeghers syndrome, in which pigmented macules about the mouth and on the buccal mucosa are associated with intestinal polyposis.

Lentigines or liver spots are not necessarily limited to the exposed surfaces. Lentigines are generally larger than freckles and can be differentiated from them histologically. There is not only an increased amount of melanin in the basal layers but also an elongation of the rete ridges; the epidermis therefore is not normal appearing.

Café au lait spots are large, coffee-cream colored maculae, which occur in normal individuals as isolated lesions. They are seen in at least two syndromes. Recklinghausen's disease is characterized by the presence of cutaneous, bony, and visceral neurofibromas together with six or more of the cutaneous maculae greater than 1.5 cm in diameter. Associated with these large spots are minute ones located in the axillary folds, representing a pathognomonic finding called the Crowe's sign.[3] The

* Presented at the annual meeting of the Kansas Medical Society, Overland Park, May 6, 1975.

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borders of the *café au lait* spots are smooth, sometimes likened to the coastline of California, as opposed to those found in Albright's syndrome of polyostotic fibrous dysplasia in which the borders are quite irregular, suggestive of the rugged coast of Maine.

As defined above, *nevus* cells are modified melanocytes which originate from the junctional zone of the epidermis, and which lose their dendrites and their capacity to form melanin as they migrate deeper into the underlying connective tissue. Once in the dermis, they assume variable morphological forms—spindle shapes mimicking neural elements, or epithelioid forms simulating the appearance of epidermal cells—generally in nests which may be round or linear.

Junction cellular nevi are flat pigmented lesions which may appear at any age anywhere on the body. They are junctional—the nests are seen microscopically at the dermo-epidermal junction. In an *intradermal nevus* the cells are found entirely within the dermis. Consequently, the epidermis is elevated, conferring a papillary or dome shaped configuration to the lesion. They may be pigmented or flesh colored. *Compound nevi* contain junctional and intradermal components, and are usually elevated above the skin surface.

The *halo nevus* is a clinical term to describe a nevus centrally located within a circular zone of depigmentation. It was first presented by Hyde[4] in 1906, as "vitiligo with a central mole." This clinical presentation does not represent a certain type of cellular nevus, but is in reality a phenomenon in which pigmented lesions slowly regress, accompanied by microscopic and at times clinical signs of inflammation. This phenomenon most often affects junction cellular nevi, but may involve compound and intradermal moles, as well as blue nevi and occasionally melanomas.

Giant hairy nevus or congenital pigmented hairy nevus presents a variety of pigmented tumors situated closely together with macular areas, and are polypoid and pedunculated masses containing hair. They are usually present at birth, and may cover up to one-third of the skin surface. The nevus shows a distinct tendency to have an encircling distribution or to follow a dermatome, giving rise to such descriptive terms as bathing trunk, vest, coat sleeve, or stocking nevus. Histologically one can see the features of junction or compound cellular nevi and lentigines combined with the overdevelopment of entire pilary complexes. Worst of all, some of the proliferative lesions may show the changes of melanoma.[5] The exact incidence of this possibility is unknown and, although prophylactic surgery would eliminate this danger, the size of this nevus precludes any but the most heroic of plastic procedures.

Melanotic freckle of Hutchinson or lentigo maligna is a flat pigmented macule on the face of the elderly, which over a period of years extends irregularly and takes on a mottled appearance. It is now considered to be an obligate precancerous neoplasm of very slow development.[6] Almost all patients are indifferent to the presence of these lesions, which may be with them for decades, and medical advice is sought only when a nodule appears within the macule or its size increases rapidly, or one area within the freckle becomes increasingly hyperpigmented. Induration, crusting, ulceration, and nodule formation in the macule are suggestive of malignant change.

Melanoma is the malignant neoplasm of the epidermal melanocyte. It may arise from the junctional cells of a junction cellular nevus or compound nevus, from the premalignant melanocytes of a lentigo maligna, or from melanocytes of normal skin. Of all malignant melanomas, 95 per cent develop in white subjects; the incidence is approximately the same for men and women. The majority of these lesions arise in a preexisting nevus, but some patients insist that a pigmented spot had never been present and their "mole" appeared quite recently, seemingly *de novo*. The signs prompting an office visit are: increase in size, elevation from the surface of the skin, deepening of pigmentation, and itching. The signs of illness are bleeding, blister formation, and ulceration.[7]

On the basis of clinical appearance, histological findings and biological activity, malignant melanomas have been classified into at least three types.[8] The biology of the melanoma arising from a melanotic freckle of Hutchinson, or *lentigo maligna melanoma,* is an extremely slow progression toward malignancy. The clinical features of the *superficial spreading melanoma* include irregular contour, color, and surface with an admixture of tan, brown and black, with gray, dull-pink, and ivory in scarred areas. Such lesions may occur anywhere on the body, but involvement of the lower parts of legs predominate in women. The gross features of *nodular melanoma* may be derived from its name (spherical, polypoid, with a shiny black or rose-gray color), and represent a more deeply invading type with the poorest prognosis.[9]

The differential diagnosis of malignant melanoma includes seborrheic keratosis, seborrheic papilloma, cellular nevus, pigmented basal cell carcinoma, dermatofibroma, extremely vascular lesions (such as an irritated hemangioma or a pyogenic granuloma), warts treated with a blistering agent, and accidental carbon or explosion tattoos. All of these possibilities may be eliminated, however, by family history. Although gross observations and the natural history of a given pigmented lesion may suggest malignant melanoma, the diagnosis is always made microscopically.

Summary

The benign pigmented cutaneous lesions are clinically often confused with malignant melanoma, because localization, color variation, and degree of vascularity are not pathognomonic features of any given nodular lesion. Signs prompting medical attention are: the increase in size, elevation from the skin surface, deepening of pigmentation, spontaneous itching, blister formation, bleeding, and ulceration. The diagnosis of malignant melanoma must always be made histologically.

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Name Your Poison

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Cancer Data Service

Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

F. F. HOLMES, M.D., SUZANNE OLSON, B.S.J., CHIP LASH, B.F.A. *and* J. MITCHELL HENRY, B.S.,
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Ed. Note: This is the first of an eight-part series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Service. The CDS, which is part of the Mid-America Cancer Center Program, is a fully-computerized data center for 17 participating Kansas and Western Missouri hospitals, with personnel and facilities to assist any hospital in the development and maintenance of its own cancer registry. The CDS currently maintains data on over 50,000 cancer patients, with an additional 600 new cases registered monthly. These new cases are collected from the participating hospitals which report data on cancer occurrence, care, and treatment. The hospital representation in the CDS is over 30% of the general medical and surgical hospital beds in Kansas, and over 50% of the general medical and surgical hospital beds in metropolitan Kansas City. Data collected by the CDS is incorporated into statistical analyses, studies, and technical reports as indicated in this particular study on survival in distantly metastatic carcinoma at diagnosis.

Introduction

A DEFINITE increase in survival has begun to emerge from what has previously been one of the most depressing areas of cancer prognosis, carcinomas advanced and distantly metastatic at diagnosis. Patients with this advanced stage of disease are an unfortunate group who have been largely ignored until recent years. Published data have either ignored advanced cancer,[1-3] or have contained improved survival figures for advanced cancer without comment.[4-6]

Data

In a recent survey of survival data compiled on 35,251 cases registered at the Cancer Data Service from 1945 through 1974, it became obvious that there was an auspicious change over the last decade in the survival of patients who presented with carcinomas distantly metastatic at diagnosis.

This study was supported in part by the Mid-America Cancer Center Program and the American Cancer Society-Kansas Division, and is presented in cooperation with the State of Kansas Department of Health and Environment.

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During these years, a followup rate of 97 per cent was achieved for the 35,251 cancers registered. Of these, 22,454 were carcinomas and 3,842 were distantly metastatic at the time of diagnosis. Using carcinoma histologies listed in the *Manual of Tumor Nomenclature and Coding*,[7] all carcinomas except skin were included in this study. Survival data were computed by the actuarial method as described by Berkson and Gage.[8]

Survival rates for 3,842 Kansas and Missouri patients with carcinoma metastatic at diagnosis were examined. Survival for the period 1945-1954 was compared to that for the period 1955-1964, with 679 and 1,358 patients respectively. As shown in *Figure 1,* these two survival curves are nearly identical, indicating that there was no significant improvement during these two decades.

Survival for all patients diagnosed during the first two decades (1945-1964) was then compared to that for the recent decade (1965-1974), with 2,037 and 1,805 patients in the two groups respectively *(Figure 2)*. In this comparison, there was significant improvement in survival for the recent group at years one, three and seven, and distinct differences at five and nine years.

Comment

Some might observe that analyzing cancer survival data of any stage by histology without regard to site of origin is unconventional. However, this method of analysis does tend to highlight differences that are not easily appreciated when specific sites are evaluated.

Presently, there is no possibility for cure of this advanced cancer, although control is often possible. There are at least four reasons for the advanced stage at diagnosis: (1) especially malignant and rapidly growing tumors; (2) early metastasis of small tumors; (3) poor host defense against the cancer; and (4) delay in seeking medical attention.

Considering recent disappointment and disenchantment over what many identify as minimal patient benefits accrued from practical application of cancer research,[9] it is encouraging to note small, but significant increases in survival even for patients with carcinoma advanced at diagnosis.

FIGURE 1

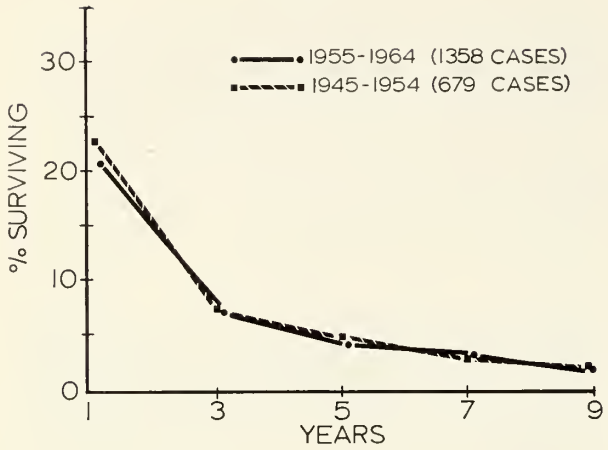


FIGURE 2

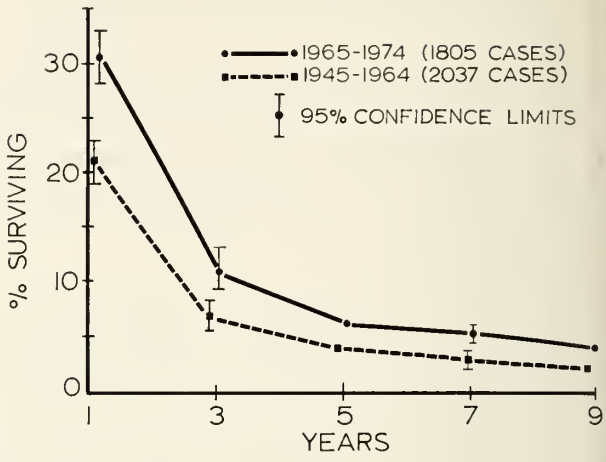


Table I shows the percentage of patients who have received surgery, radiotherapy, or chemotherapy for control of their advanced carcinomas in the recent period as compared to the earlier period. The percentage of patients receiving surgical and radiation therapy did not change while the number receiving chemotherapy nearly doubled.

Thus, utilization of chemotherapy was greatly increased during the period of this study. The proportion of patients having surgery and radiation therapy did not change. It seems reasonable to assume that this had some bearing on the improved survival. Better control of infection by antibiotics and better supportive care in general may also have improved the survival rate. Nonetheless, it is important to recognize that cancer survival rates have increased even in this advanced stage, one of the least favorable presentations of cancer.

To define further the trends of improving survival, an analysis has been conducted for seven specific major sites. *Table II* indicates the number of cases and percentage of the total CDS population for each major site. Data for each of these sites will be presented in the next seven parts of this eight-part series on survival in carcinoma distantly metastatic at diagnosis.

Acknowledgments

Kansas hospitals contributing cancer case data to this study are: St. Joseph's, Concordia; Mercy, Fort Scott; St. Catherine, Garden City; Halstead, Halstead; Sheridan County, Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center, Kansas City; Ransom Memorial, Ottawa; Mt. Carmel Medical Center, Pittsburg; Stormont-Vail, Topeka; St. Joseph Hospital and Rehabilitation Center, and Wesley Medical Center, Wichita.

TABLE I

TREATMENT MODALITIES, PER CENT OF CASES FOR 1945-1964 AND 1965-1974

	1945-1964	*1965-1974*
Surgery	45.3	48.0
Radiotherapy	30.9	34.0
Chemotherapy	24.4	46.9

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3. California Regional Medical Program and the State of California Department of Public Health: *Cancer Mortality, Morbidity and Survival in California*. California Tumor Registry. 1968.

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5. Levin, D. L.; Devesa, S. S.; Godwin, J. D., II and Silverman, D. T.: *Cancer Rates and Risks* (2nd ed.). United States Department of Health, Education and Welfare. Bethesda. 1974.

(Continued on page 217)

TABLE II

NUMBERS OF CASES AND PERCENTAGES OF TOTAL BY SITES FOR 1945-1964 AND 1965-1974

	1945-1964		*1965-1974*	
	NUMBER	% OF TOTAL	NUMBER	% OF TOTAL
Breast	99	4.9	120	6.6
Colon / rectum	263	12.9	209	11.6
Lung	332	16.3	436	24.2
Ovary and tubes	110	5.4	85	4.7
Pancreas	146	7.2	118	6.5
Prostate	169	8.3	118	6.5
Stomach	197	9.7	78	4.3

The President's Message

Hats Off to THE KANSAS MEDICAL SOCIETY for completion of a most successful year, particularly in the legislative arena at the state level.

Our special thanks to Dr. John Travis, our retiring president; to Drs. Gregg Snyder, James Loeffler and Ted Young; to Jerry Slaughter and the KMS Staff; to Mrs. Warren Meyer as professional liability chairman, and all of the wonderful ladies in our Auxiliary; to our friends in the State House, particularly Governor Bennett, Senator Sowers and the members of the Interim Committee on Malpractice; to our friends Messrs. George Trombold, Wayne Straton, Darb Ratner, and many others.

The above group represents only a few in leadership positions. The real reason we achieved the degree of success we did was because probably at no time in our 117 years have so many of our 2245 members been so active in the work of our Society. It would be interesting to know how many thousands of hours of work went into this program. What we have achieved in this field was not just a victory for the physicians of Kansas, but for the people of Kansas—our patients—the people for whom we work. So Hats Off, and Thank You to you all.

What, then, is left to do? I think we have many areas which should receive time and attention during the coming year. Among them are: public relations, public education in health matters, continuing work in KMS-KUMC relationships, continuing medical education, physician extenders (Physician's Assistants and Nurse Clinicians), relations between KMS and the Board of Healing Arts, drug brand exchange and bioequivalence, physician's assistance in rape investigations, continuing efforts to reduce cultists and quackery in health fields, statewide availability of physicians and medical care, continuing our KaMPAC efforts and improving our methods of influencing federal health legislation, PSRO and the Kansas Foundation, the conglomerate of Health Systems Areas and Agencies, and a study of reapportionment of the KMS House of Delegates. Thus we face our next year's work with some old and some new problems.



Before long, all commission and committee assignments will be made. Please let me know of your special interests and your willingness to work on certain committees. Some have already done so, and this is a great help. I suggest that committee and commission work begin this summer, rather than waiting until next spring.

I appreciate your confidence in assigning me to this position. I shall do my best to perform the duties of President of the oldest and finest corporation in the state—The Kansas Medical Society. Please let me know your wishes and concerns, because YOU are the Kansas Medical Society.

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

'Tain't Necessarily So

Another spring is upon us and that hardy perennial of the medical garden has blossomed forth: the "discovery" by some of our vigilant lay observers that unsuspecting patients are falling victim on all sides to "unnecessary" surgery. By the process of identifying (from a preliminary and limited study of a particular condition) a given number of surgical procedures which were deemed unnecessary, and multiplying by a factor to encompass all surgical procedures and assuming a certain surgical mortality, they arrive at a cost, in lives, of this problematic practice. Thus, all of the traditional elements are present: the use of figures and statements out of context by individuals neither trained nor experienced in the discipline, and their extrapolation far beyond the purpose of the study to arrive at presumed support for a preconception of wrong-doing. The reflex response of medical spokesmen served to complete what might be called the epoxy reaction: the sticky resin of accusation was solidified by the catalyst of denial—and the profession is stuck with it. Once more, the physician responds with the traditional "Yes, but—" which acknowledges, in an attempt at intellectual honesty, that there may be some element of truth, only to have the objective and explanatory rebuttal lost in the ensuing rhetoric.

One of the ironical features of these "exposures" is that they are nearly always distortions of the efforts of the profession to examine itself and correct the very deficiencies its critics exaggerate in their condemnation. Avidly ignored by these sidewalk superintendents is the fact that no progress can be made without examining the deficiencies, no successes can be gauged without measuring the results, however they turn out, and these processes are essentially what medical education and publication are all about. Unhappier is the fact that physicians themselves may be among the active antagonists in the matter—even though the same requirements apply to every branch of medicine. Ever since antisepsis and anesthesia combined to make surgery respectable, there has been a sibling rivalry which has made some of the non-surgical practitioners enjoy, as the just price of the lofty surgical status, the fact and frequency with which the surgeon receives this unpleasant attention. Family squabbles are never very pretty but the neighbors can be expected to join them, especially if they think they may profit from the hostilities.

Although it admittedly does not rectify the basic error any more than the usual editorial "solution," we suggest one step which might lead to a more reasonable perspective: that we apply the word "unjustifiable" to these surgical problems rather than the current favorite, "unnecessary." The latter word, when combined with "surgery"—as it so often seems to be—carries a connotation of willfulness, an implication that the surgery is a mechanism of satisfaction, convenience, or profit for the surgeon while at the same time it is a risk, an unwarranted expense, and a violation of the patient's person. In a sense, none but the most emergent surgery can be classified strictly as necessary since there are nearly always alternative procedures which *could* be carried out (at least until surgical intervention became unequivocally necessary). Relatively few of the medical conditions are so precise as to permit only one specific therapeutic effort—whether surgical or medical or of any other modality—and the medical mind understands, even if the lay mind does not, that the selection of a course of management cannot always be registered in the absolutes of terms such as "necessary" or "unnecessary."

The broader implications of the word "unjustifiable" render it a more suitable qualifier. Though it may seem to some to be less exacting, it is precisely this which makes it more effective in describing the suitability of a surgical procedure—or any other therapeutic procedure. "Justifiable" introduces the concept of the exercise of judgment in the selection of a given course. Consequently, "unjustifiable" indicates that this judgment has been applied and the choice cannot be credited. This term should, in fact, be more satisfying to

our critics if they sincerely wish to assist in the effort to eliminate abuses of medical practice. Into the decision, this brings not only the narrow point of necessity (which is so frequently contentious) but the broader elements: the capabilities of the surgical team, the facilities, the quality of the diagnosis, the status of the surgical effort as compared with the other modes of therapy, even the moral, legal, and social aspects of the problem. And yet, physicians should welcome the assessment since it should, in fact, mean no change in surgical principles or proper preoperative evaluation. It emphasizes professional responsibility and the concept that a given choice is interpreted to be the best available choice (and, in this sense, necessary), while "necessary" indicates that the matter has passed the point of any other possible management, a position which may be perfectly valid or may be the result of less than optimum management before—failure to pursue a "justifiable" course which would have benefited the patient by avoiding the stringency of "necessary."

But semantic maneuvers will not satisfy the critics or correct the deficiencies or prevent the errors. There is another aspect of the problem which warrants attention even at the risk of giving aid and comfort to the enemy by suggesting another focus for investigation. We suspect that the part of the medical house which needs putting in order more than the surgeon's avarice and ineptitude is that bane of medical existence, the medical record. In theory, this document should be a vivid and illuminating reflection of the patient's medical person. It should present, against a background of the medical wisdom of the ages, the clinical and pathological verities of the patient leading us logically to therapeutic certainty. As a matter of fact, it may be, at any given time, represented by blank pages or by a variety of sheets of paper of various sizes and colors containing isolated items of disparate information or an occasional nursing note commenting that the patient had a good noc (patients never have "nights"), or a notation that the significant information has been recorded at some previous admission (which reference, if carried back through similar notations in previous records, fails to disclose this original revelance unless one counts the report of the patient's admission by birth).

It would seem that after the patient leaves the security of the hospital by one door or the other, this termination of the record, perhaps when temporary but certainly when permanent, should permit a satisfactory point at which to assemble all of the evidence of his or her medical presence. Unfortunately, an unwonted lapse of time will probably ensue before those pertinent items are scrawled on paper or mumbled into a microphone following a period of uncomfortable rumination while trying to recall just what did happen when.

This is the field from which the investigator (depending upon his diligence and purpose) will glean the information which will provide the basis of evaluation of the procedures visited upon the patient. This dubious source will presumably reveal the conditions, the utilization, and the results by which we shall arrive at justifiabiltiy—even necessity.

We probably would do better to stay with our efforts toward semantic evangelism than to try to improve the record-keeping habits of the profession. Nevertheless, we think the point is valid—though we obviously can't promote it to our critics without inviting even worse recriminations. We do believe that if the medical record presented, as completely and accurately as it should, the scientific basis and the medical judgment which leads to the decision to follow a given course of therapy, surgical or otherwise, and if investigators studied the records with the same diligence—not just a compilation of the pathologist's final diagnosis but the clinical features and experience which preceded this diagnosis, not just a review of the temperature graph but what preceded the fever, and so on—so that the study reflected not just a statistical summation of coding numbers but an interpretation of what went on in the patient's body and the physician's mind, the charges of unnecessary surgery—or any other therapy—would infrequently be justifiable—or necessary.—*D.E.G.*

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Vox Dox

Vox Dox Editor:

I am deeply concerned about the lack of knowledge of physicians, laymen, and the paramedical on all aspects of insect allergy. This lack of knowledge will result in needless deaths because: (1) Physicians need to know of the dangers of reactions; (2) Laymen desperately need to recognize the reactions to insects, especially those which forewarn of a possible fatality from a subsequent sting. They need to realize that first-aid medication (*i.e.,* an insect sting kit), as well as hyposensitization, is available and necessary.

Insect allergy has been a very special interest of mine for at least 20 years—especially the clinical aspect of insect allergy. As you know, I have written a book, as well as articles and chapters for medical books, and have lectured numerous medical associations on this subject. In addition, because of announcements I placed in various medical journals, I have received from physicians scores of case reports of patients who have had reactions to biting and stinging insects, together with the results of hyposensitization, if attempted. In my medical practice, I have seen many insect allergy patients and have received many letters and telephone calls from physicians, asking for my advice on the management of their insect allergy patients.

I continue to be amazed by the skepticism of some physicians that an insect sting can cause death. From personal knowledge, patients who have received fatal stings have often had their symptoms misdiagnosed as being caused by acute myocardial infarction.

In taking the past history of a new patient who comes to me with a chief complaint of asthma, eczema, etc., I frequently find that he has experienced a severe reaction to insects. The family history quite often reveals that another member of the family or a relative has also had a severe reaction to an insect. In both instances they had not been advised to seek further treatment; it had been lightly passed off by the doctor and the patient.

The following are but a few examples which prompt my deep concern.

One physician at a state medical meeting at which I spoke told me that he had signed the death certificate of a person who had been plowing. He was heard to yell, "I've been stung" before he fell over dead. The victim's wife had informed the physician that the man had had a previous reaction to an insect sting. The physician did not believe a person could die from an insect sting and had therefore signed the death certificate as due to heart attack.

The enclosed copy of a newspaper article is an illustration of a person who was not given an insect sting kit to have on hand at all times. I have personal knowledge of this case from the physician who treated him. He had seen the patient in the emergency room, treated him and then released him. While fishing a few weeks later, the man was again stung, and within a few minutes he was dead. His fishing companions could do nothing. Had he been given an insect sting kit, I am convinced he would be alive today. Bear in mind that this was a Board certified internal medicine specialist who treated the patient for a reaction.

Because of my known interest in insect allergy, I am consulted by physicians in regard to the management of problem cases of insect allergy. A few days after this young man's death, because of my expertise in this area, I was contacted by the internist who had taken care of the patient in the emergency room (described in the newspaper article). He was concerned because he had just treated another patient with a similar reaction. The doctor wanted to know what he could do to prevent a tragedy which his former patient had suffered. We had a long discussion about insect allergy, including preventive measures, the insect sting kit, and hyposensitization. He commented, "Someone has fallen down on the job of educating physicians on this subject." I agree.

An insect sting kit in the hands of any person allergic to insect stings could prevent sting-induced death. The time interval between an insect sting and death is around 10 to 20 minutes, and usually is not enough time to get to a physician for life-saving treatment. I would like to see our legal statutes changed to allow any layman to purchase the insect sting kit over the counter at any drug store. If this is not feasible, at least the kit should be available to emergency personnel—forest rangers, rescue squad personnel, school nurses, etc. Intensive education for the lay public, an absolute necessity, could begin with use of television and the printed media.

In the last few months, I wrote a letter to editors of medical journals across the United States, in which I asked physicians for their opinion on insect sting kits being made available to emergency personnel. State laws may vary, but in most states if a child is suffering from a severe reaction as a result of an insect sting it is illegal for a school nurse to give him an injection of epinephrine to save his life. (THE JOURNAL OF THE KANSAS MEDICAL SOCIETY may want to take some action to support changing this law.) I received many replies from physicians who wholeheartedly agreed that these people should have an insect sting kit on hand. To my dismay, without exception, *no physician* who replied knew of such a kit, its contents, and indications for use. The concern and interest is there. The knowledge is not. Pharmacists, the Department of the Army, and the Public

Health Service were among some of the large groups represented in the replies.

The letter bears out my urgent request for a concentrated worldwide education. Editorials and articles in all the medical journals (most physicians see this type of patient), simply giving the symptoms or reactions, treatment by the physician, and proper medication for the patient to have on hand in case of another sting would help. Information about the insect sting kit, a medic alert emblem, and possibly hyposensitization to these insects should also be included. Symposia and lectures at the local, state, and national medical meetings would be of great benefit to physicians, and knowledgeable physicians could be stimulated to educate the layman through the local and national media.

Much more needs to be done now and it must be an all-out effort by the Kansas Medical Society. I believe an editorial on the subject in THE JOURNAL OF THE KANSAS MEDICAL SOCIETY would be of great benefit. At any rate, we must all back this with a conscientious effort to disseminate this knowledge to all. Any half-hearted effort will not succeed.

I am sending this material to you to emphasize the importance of educating the physician as well as the public. We have delayed too long.

CLAUDE A. FRAZIER, M.D.
Asheville, N. C. 28801

Vox Dox Editor:

Again this year, I am compiling a Biting Insect Summary and would appreciate any case reports of unusual allergic reactions, especially systemic (sneezing, wheezing, urticaria) to bites of insects, *i.e.*, mosquitoes, fleas, gnats, kissing bugs, bedbugs, chiggers, black flies, horseflies, sandflies, deerflies, etc.

I would like physicians to supply me with case reports of those patients who have had unusual reactions to such insects. Include in your reports the type of reactions (immediate and delayed symptoms), treatment, age, sex and race of the patient, the site of the bite(s), the season of the year, and any other associated allergies.

If skin tests and hyposensitization were instituted, I would like the report of both. Please note that it is the *biting* (not stinging) insect in which I am interested.

If you have found any insect repellent, local treatment or insecticides of value, I would also appreciate this.

Please send this information to the following address:

CLAUDE A. FRAZIER, M.D.
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Asheville, NC 28801

NEW MEMBERS

The JOURNAL *takes this opportunity to welcome these new members into the Kansas Medical Society.*

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Special Report

Kansas Chapter, American College of Radiology

MANAGEMENT OF PATIENTS WITH A HISTORY OF RADIATION THERAPY TO THE HEAD AND NECK DURING CHILDHOOD

Background Information

During the period from the late 1930s to the early 1960s, radiation therapy to shrink tonsils, adenoids and thymus glands, and for treatment of other benign conditions was widely used in hospitals and physicians' offices throughout the country, and was a well accepted medical practice during those years. During more recent years, a substantial amount of medical evidence has been accumulated to indicate that radiation therapy of this type administered to patients of this age group could be harmful and, for the most part, this type of treatment was generally discontinued approximately 15 years ago. Within recent years, studies have shown that there is a suspected link between this type of radiation and the development of thyroid tumors, both benign and malignant. *The New England Journal of Medicine* reports in its January 23, 1975, issue that the high incidence of thyroid nodules, both benign and malignant, could appear many years after radiation. Also, researchers recently discovered a 7 per cent incidence of carcinoma in a group of 100 patients with a history of neck radiation, evidence that the risk of thyroid carcinoma is greater for these patients than the general population. While data on the incidence of thyroid abnormalities varies, it does suggest that the development of thyroid cancer is related to the amount of radiation as well as age at the time of treatment.

Widespread media coverage of this problem has stimulated many patient inquiries, and physicians are receiving calls from concerned patients. Because of this public anxiety, we urge you to thoroughly explain the problem to patients who received radiation therapy and make recommendations to them concerning proper management of the problem. If you choose not to manage these patients, it is suggested that they be referred to a physician familiar with thyroid problems.

From the Special Committee on Radiation Risks.

Suggested Management Guidelines

1. If upon examination the thyroid appears normal, you may: (a) observe the patient at six-month or annual intervals; (b) prescribe thyroid suppression medication; or (c) obtain a baseline thyroid scan.

2. If the evaluation indicates that the thyroid is normal, the patient should be advised that there is still a risk of developing a neoplasm, and should be urged to schedule followup examinations on an annual basis.

3. If a nodule is detected by the physical examination of the neck, a thyroid scan should be performed.

4. If a nodule or nodules are found, three options are available: (a) continuing careful observation; (b) thyroid suppression medication; (c) surgical intervention.

5. If surgical intervention is decided upon, recommended procedures span the spectrum of medical opinion, ranging from lobectomy on the side of the nodule to total thyroidectomy. Several factors must be considered when contemplating surgery, including the anesthetic risk, the dangers of recurrent laryngeal nerve injury, and hypoparathyroidism. These risks should be weighed carefully against the relatively benign history of this type of carcinoma.

Some recent publications on this problem and general management options include:

1. Refetoff, S., *et al.:* Continuing occurrence of thyroid carcinoma after irradiation to the neck in infancy and childhood, *New Eng. J. Med.,* 292:171-173, 1975.

2. Braverman, L. E.: Consequences of thyroid radiation in children, *New Eng. J. Med.,* 292:204-205, 1975.

3. Greenspan, E. S.: Thyroid nodules and thyroid cancer, *Western Journal of Medicine,* 121:359-365, 1974.

4. Buckwalter, J. A. and Thomas, C. G., Jr.: Selection of surgical treatment for well differentiated thyroid carcinoma, *Ann. Surg.,* 176:565, 1972.

5. Sampson, R. J., *et al.:* Metastases from occult thyroid carcinoma: An autopsy study form Hiroshima and Nagasaki, Japan, *Cancer* 25:803-811, 1970.

Month in Washington

NHI

The Administration has told Congress it won't propose a national health insurance (NHI) program until the economy brightens. However, HEW Secretary David Mathews has conceded the plan—when submitted—will be close to the Nixon Administration's so-called CHIP plan mandating comprehensive private health insurance coverage to be offered by employers.

Mathews appeared before the House Commerce Subcommittee on Health as it opened the 1976 hearings on NHI. Under questioning from Subcommittee Chairman Paul Rogers (D-Fla.), Mathews said CHIP remains the basic Administration NHI plan and that proposing it "is a matter of timing."

Medicaid Kickbacks

A Senate report charges that some clinical laboratories involved in Medicaid have operated on a kickback basis with physicians and clinics.

Chairman Frank Moss (D-Utah), of the Senate Special Committee on Aging, said the report "concludes that, at least in the states which came under investigation, kickbacks are widespread among labs specializing in Medicaid business. In fact, it appears necessary to give a kickback to secure the business of physicians or clinics who specialize in the treatment of welfare patients."

The report focused on Illinois. Other states mentioned were New York, New Jersey, Michigan, California, and Pennsylvania.

A staff witness told the Committee at a hearing that the staff estimates that at least $45 million of the $213 million Medicare-Medicaid payments to clinical laboratories is either fraudulent or unnecessary. Average kickback was 30 per cent of the lab's charge, the report estimated.

The report says a small number of labs control the Medicaid business in the involved states. In New York, according to the report, 17 facilities control 70 per cent of the Medicaid business; in New Jersey, 12 labs control 60 per cent of Medicaid payments; in Illinois, 26 labs handle over 90 per cent of the volume.

In response to numerous press queries generated by the Committee's report, including a filmed version of the charges carried nationally by CBS program "60 Minutes," Max H. Parrott, M.D., AMA President, made the following statement:

"I would remind physicians and the public alike that the AMA Code of Ethics is very clear on the matter of laboratory charges.

"The physician's ethical responsibility is to provide his patients with high quality services. As a professional man, the physician is entitled to fair compensation for his services. But he is not engaged in a commercial enterprise and he should not make a markup, commission or profit on the services rendered by others.

"If after due process a physician is found to have violated the Code of Ethics in this or any other respect, he is fully liable for whatever professional penalties may be imposed, in addition to whatever penalties may be imposed by law."

NHI Dictionary

Staff of the House Commerce Health Subcommittee has prepared a discursive dictionary designed to steer lawmakers through the maze of terms—medical, legal, and federal—involved in an intelligent discussion of national health insurance.

The 183-page document also will help physicians who have dealings with the federal government and Congress. It contains concise definitions of most of the pertinent legal and governmental terms and acronyms ("alphabet soup expanded") flavored with a touch of whimsy.

Illustrations range from a drawing of the lower intestines (see borborygmus) to a handsome full-page sketch of Andreas Vesalius and a two-page biography ("a wonderful man").

The American health care system is due for tight government control because costs are becoming more than the economy can bear.

This was the grim message of speaker after speaker at a Washington, D. C. conference on the economic impact of health care legislation. The meeting was sponsored by Arthur D. Little, Inc., a Cambridge, Mass. consulting and research outfit.

"The cost is becoming prohibitive," declared Charles Edwards, M.D., former Assistant HEW Secretary for Health. "The U. S. health care system is headed toward fundamental changes that are certain to occur and sooner than most expect." Dr. Edwards warned he predicted health care will cost $135 billion next year—$600 for every person in the country.

Declaring that this decade for physicians could be

called the "showdown seventies," Malcolm C. Todd, M.D., Immediate Past President of the AMA, told the conference of business and health leaders that he hoped for a "proper accommodation" between the medical profession and the federal government. Unless a pluralistic system is retained, Dr. Todd warned, "federally inspired chaos" could emerge. "There could be a vicious circle . . . with programs foundering on their own shortcomings and blunders . . . and government blaming doctors and hospitals for the failures in order to justify even more repressive programs," he said.

A study was released by the Arthur D. Little firm estimating that the passage of national catastrophic health insurance would add $4.5 billion to 1980 expenditures for principal health care products and services. If no new national health coverage becomes effective, spending for health care is expected to grow at an average annual rate of 4 per cent over the next five years, or from $98.8 billion in 1975, to $112 billion in 1980, the study said.

Enactment of national comprehensive health insurance, which Little said is not regarded as very likely to happen before 1980, would increase health care spending by 12 per cent or $13.6 billion, for an annual total of $125.6 billion in five years.

A federal-state campaign to reduce Medicaid fraud and abuse has been launched by HEW Secretary David Mathews. A team of federal and state Medicaid examiners will begin its work in Massachusetts soon at the invitation of Gov. Michael Dukakis. Another team will begin operations in June in Ohio, at the request of Gov. James Rhodes.

HEW said it plans to focus the joint effort on states with the largest Medicaid programs, with reviews in at least five states this year. The federal-state examiners will have two basic objectives: (1) they will identify fraud and abuse and refer specific violations for possible prosecution; (2) they will help states develop efficient program management and abuse detection systems.

HEW has developed a computerized Medicaid management information system (MMIS) to aid in the processing of claims. MMIS will alert a state if, for example, a patient was in a hospital the same day a physician claimed to have treated him at home, or if a pregnancy test was ordered on a male. HEW is assembling a Medicaid fraud and abuse unit of 108 people in the Medical Services Administration, and a criminal investigative branch of 74 investigators which will report directly to Under Secretary Marjorie Lynch. HEW said it will coordinate its Medicaid investigative efforts with

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600091

the Department of Justice and the Internal Revenue Service.

Mathews said he plans to invite representatives of national health services provider organizations to Washington shortly to solicit their ideas and to urge them to undertake a self-policing program and to assist the states in identifying potentially fraudulent providers. "We recognize that the overwhelming majority of health care providers are ethical and professional," Mathews said. "They share our desire to bring efficiency to Medicaid in its management and in the quality of health care it offers. We want to ferret out the comparative few who break the law. We believe the health professions organizations will give us their enthusiastic support in this effort."

Heading the HEW office of investigators will be John J. Walsh, senior investigator for the Senate permanent subcommittee on investigations and former FBI agent.

Now passed by both Houses and awaiting conference, medical device legislation has made members of that industry predict a bullish future.

The legislation will add $250,000 to $700,000 in costs to products requiring premarket approval. The hottest medical device will continue to be the pacemaker. Sales are expected to increase at an average annual compound rate of 9 per cent. Another big item is the cat (CAPS) scanner. Manufacturers predict 3,000 placements by 1980. The use of renal dialysis is expected to triple by 1980. Catastrophic or comprehensive national health insurance will also help the industry. Makers of orthopedic and surgical appliances, clinical diagnostics, medicinals, and pharmaceuticals all expect steady growth. Drug companies predict biggest growth in anti-arthritics sales.

The legislation provides three categories for devices: class I, general controls; class II, performance standards; class III, premarket approval. The general controls give FDA authority to move against devices that are misbranded or badly made, and require their registration as if they were drugs. FDA can exempt some devices from this control, such as custom devices not intended for general sale. Class II devices would be required to meet certain manufacturing standards.

The class III classification involves pre-market clearance for new products and essentially the same type of clearance for existing products. The House Commerce Committee report said it expected that intrauterine devices would fall in the class III category.

The Senate Labor and Public Welfare Committee has approved legislation subjecting clinical laboratories in both intrastate and interstate commerce to federal licensure and standards requirements.

The revision of the Clinical Laboratories Improvement Act (CLIA) would cover labs operating only within one state for the first time, and give HEW a stronger role in supervising the nation's clinical laboratories. Individual physicians who perform tests solely in connection with treatment of their own patients could be exempted from the law's requirements if HEW wished.

The measure, expected to be voted soon by the full Senate, provides leeway for continuation of existing accreditation and certification programs by the Joint Commission on Accreditation of Hospitals and the College of American Pathologists (CAP). AMA and the CAP had urged Congress to allow these activities to continue.

One provision adopted by the Committee would require disclosure of fees and contractual relationships between labs and physicians using their services.

The House Commerce Subcommittee on Health is slated to start hearings soon on similar legislation.

PHYSICIANS NEEDED

Emergency Medicine practice with national acute care group is seeking physicians for low volume hospitals in western Kansas. Unusually attractive scheduling and compensation.

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KAPPA DELTA AWARDS—1977

The American Academy of Orthopaedic Surgeons announces that manuscripts are earnestly solicited for the three Kappa Delta Awards of $2,000 each.

Awards will be made in the following three categories:

Basic research relating to the musculoskeletal system;
Clinical research in orthopaedic surgery;
Problems relating to trauma of the musculoskeletal system.

Papers to receive the awards will be selected during the current year from manuscripts submitted before July 15, 1976. Appropriate places on the 1977 program will be reserved for the presentation of the award-winning papers.

If interested, submit six copies of abstracts or manuscripts to: American Academy of Orthopaedic Surgeons, Advisory Committee on Research: Kappa Delta Awards, 430 North Michigan Avenue, Chicago, Illinois 60611.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis*, and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

ROCHE

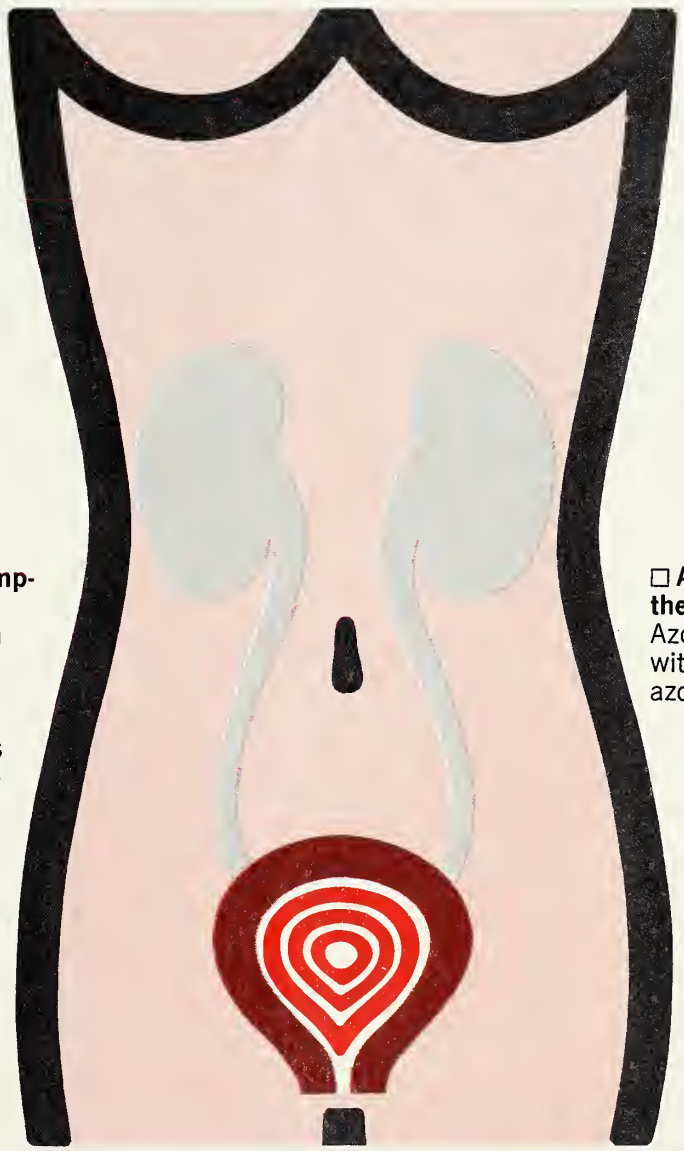
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When pain complicates acute cystitis*

Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for the pain for the pathogens



☐ **Early relief of painful symptoms** such as burning and discomfort associated with urgency and frequency.

☐ **Effective control of susceptible pathogens** such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

☐ **Appropriate antibacterial therapy:** up to three days with Azo Gantanol, then 11 days with Gantanol® (sulfamethoxazole).

*nonobstructed; due to susceptible organisms

ROCHE

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Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F) and 25 mg. of hydrochlorothiazide.

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TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly** impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

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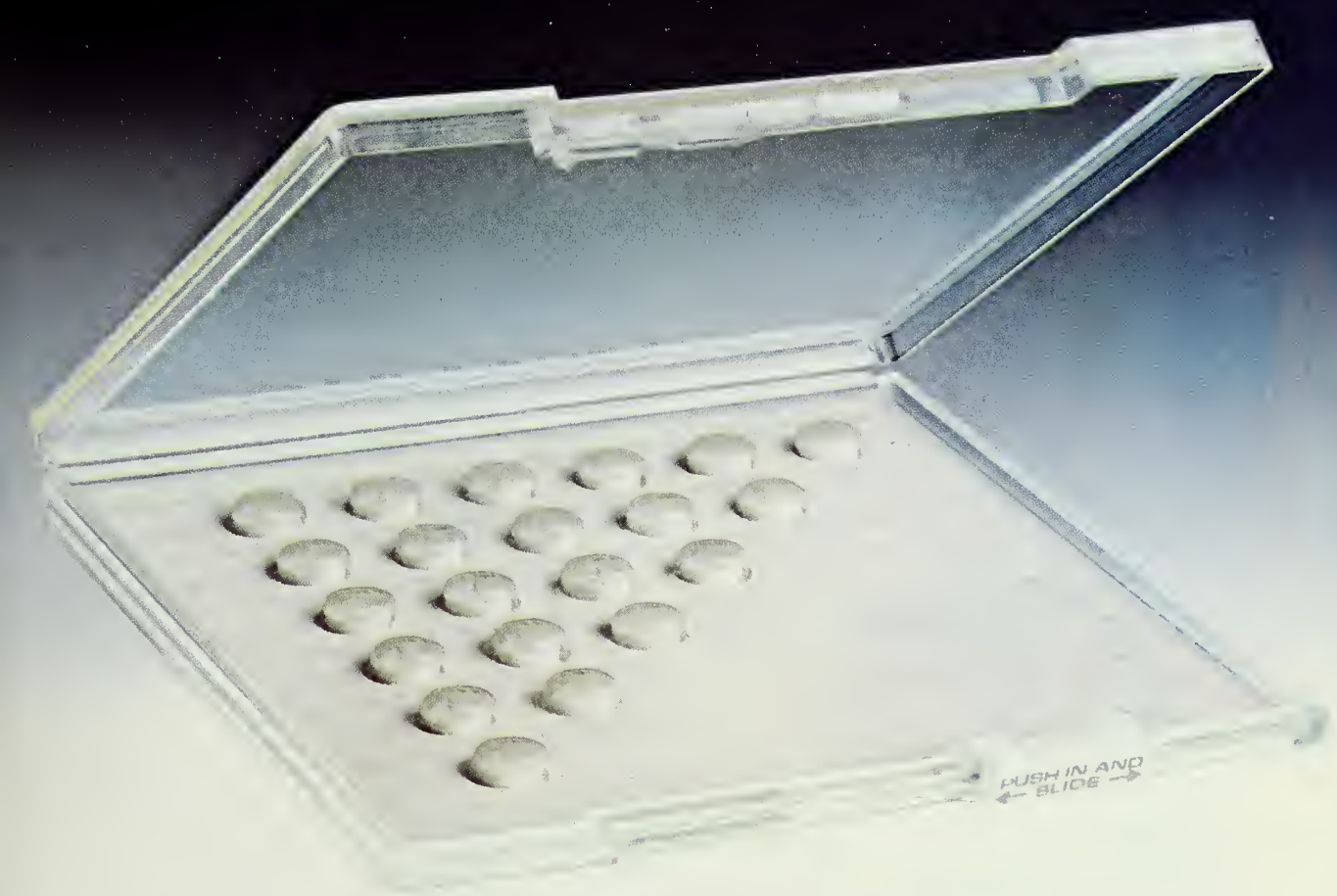
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□ Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
□ Can relieve nausea and vomiting often associated with vertigo.*
□ Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
□ Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
□ Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

Personalities

George E. Burket, Kansas City, was elected president for a second term by the American Board of Family Practice.

The Diabetes Association of Topeka, Inc. has elected **William Nice,** Topeka, president.

Warren E. Meyer, Wichita, is serving an unprecedented fourth term on the Wichita-Sedgwick County Board of Health.

"Neuropathy in Diabetes" was the topic of a speech **John A. Segerson,** Topeka, presented to the Diabetes Association of Topeka.

Guy Akers, Fort Scott, was the featured speaker at a program on arthritis presented in Fort Scott.

The Kidney Foundation of Kansas and Western Missouri's 1976 "Gift of Life" fund drive have designated **David H. Clark,** WaKeeney, to be Trego County's Rural Pass Kit Chairman.

Death from a medical point of view was discussed by **William K. Walker,** Sedan, with Sedan High School students enrolled in a class on death.

Cyril V. Black and **F. Giles Freeman,** both of Pratt, spoke at a public forum on health in Pratt, about changing health care values caused by government regulations imposed upon the health care system.

Heat Stroke

(Continued from page 192)

20. Sohal, R.; Sun, S.; Colcolough, H. *et al.:* Heat stroke: An electron microscopic study of endothelial cell damage and disseminated intravascular coagulation. *Arch. Intern. Med.* 122: 43, 1968.

21. Perchick, J. S.; Winkelstein, A. and Shadduck, R. K.: Disseminated intravascular coagulation in heat stroke. *JAMA* 231:480-483, 1975.

22. Clowes, G. H. and O'Donnell, T. F.: Heat stroke. *N. Eng. J. Med.* 291:564-567, 1974.

Cancer Data Service

(Continued from page 206)

6. Axtell, L. M. and Myers, M. H. (eds.): *Recent Trends in Survival of Cancer Patients, 1960-1971.* United States Department of Health, Education and Welfare. Bethesda. 1974.

7. Percy, C. L.; Berg, J. W. and Thomas, L. B. (eds.): *Manual of Tumor Nomenclature and Coding.* American Cancer Society. New York. 1969.

8. Berkson, J. and Gage, R. P.: Calculation of survival rates for cancer. *Proc. Staff Meet. Mayo Clin.* 25:270-286, 1950.

9. Greenberg, D. S.: "Progress" in cancer research—don't say it isn't so. *New Eng. J. Med.* 292:707-708, 1975.

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AAP KICKS OFF 1975-76 PEDIATRIC JOURNALISM AWARD CONTEST

EVANSTON, ILL.—*The American Academy of Pediatrics has just initiated its first journalism contest for articles written for the lay public on the subject of pediatrics from July 1, 1975 through June 30, 1976.*

The awards program was established to recognize journalism that contributes to a greater public understanding of child health, disease and treatment, pediatric research, and the role of the test is made possible through a grant from Ross Laboratories, Division of Abbott Laboratories.

An award of *$1,000 will be made for the best newspaper article and an award of $1,000 for the best magazine article.* Awards will be presented to the winners at the annual session of the AAP in October 1976 in Chicago. Air fare and travel expenses will be provided for the winners. Deadline for submission of entries is August 31, 1976.

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To prepare you for your duties, we offer a course in Flight Medicine at the School of Aerospace Medicine, Brooks AFB, San Antonio, Texas; plus a special Flight Surgeon's course. Nurses must have completed training in an accredited school of nursing or baccalaureate nursing program, and must be licensed to practice in the United States.

If this sounds interesting or challenging to you, contact your Air National Guard Recruiter at Forbes ANG Base, Topeka, Kansas 66620, or call: 913-862-0465.

Woman's Auxiliary

Good Communications Are the Beginning of Understanding

Dear Kansas Physicians:

Another very successful Kansas Medical Auxiliary year has been completed with Anita Yoder as our effervescent leader. All Auxiliary members salute Anita and sincerely thank her for her superb leadership, increased membership, completion of many successful projects, and unification of our Kansas Medical Auxiliary. The new Kansas Auxiliary President thanks Anita for the guidance, wisdom, compassion, and thorough indoctrination she has received during the past year. Our national president-elect, Lela May Young of Kansas City, installed the 1976-77 Auxiliary officers on May 4, in Salina. With our officers and chairmen, we look forward to an exciting and challenging year, and the continuance of the Auxiliary programs and projects. We have established two new committees, including Long Range Planning (to add or delete Auxiliary programs as needed), and a committee on Physical Fitness and Recreational Planning for Physicians and Families has been initiated. My goal is to encourage Kansas physicians and spouses to have complete physical examinations sometime during the year, with special emphasis to be placed on identification of individuals with high blood pressure. Perhaps you observed the Barton County health charts for physicians and Auxiliary members, which were on display at Salina.

During April, I was privileged to have the opportunity to attend the AMPAC Public Affairs Workshop in Washington, D. C. Members of the KaMPAC group were introduced to very informative and educational non-partisan programs on political action and current legislation. We also listened to Republican and Democratic congressional representatives. Two very different methods on conducting political campaigns were presented, and additional presentations were given on federal election law changes, as well as the FDA and HEW programs affecting medicine. In conclusion, the AMA Washington lobbyists presented and precisely discussed current health care bills and future bills. The Kansas KaMPAC group visited the offices of Senators Dole and Pearson, where we were cordially welcomed and listened to our senators' viewpoints on current health care issues. Their aides, and also Martha Keys' health care aide Bill Darnall, expressed strong interest in receiving volume, but individually written, mail on health care issues, both pro and con.

Physicians and spouses, please read and study the health care bills, and I am certain you will want to study S.3239—Health Manpower Bill. You may then wish to react by writing to your Congressional representatives and expressing your comments. We live in an era when physicians will have to fight their own battles and not expect the AMA or the man on the street to fight them for us. Unfortunately, you and the medical profession are in the process of being legislated into our current socialistic pattern, and your voices must be heard in Washington. Today, patients are classified as consumers and they are the majority group; so if you are interested in preserving some of medicine's traditions, write a few letters to Washington.

If you have any comments, suggestions, or criticisms during the coming year, please don't hesitate to write to me. Our Auxiliary members are willing, anxious, and truly interested in helping the KMS to promote good medical care and public relations. In closing, I wish to invite you to join us in the promotion of our theme, "Good Communications Are the Beginning of Understanding."

Sincerely yours,
Jean Cavanaugh
President,
Woman's Auxiliary to the
Kansas Medical Society



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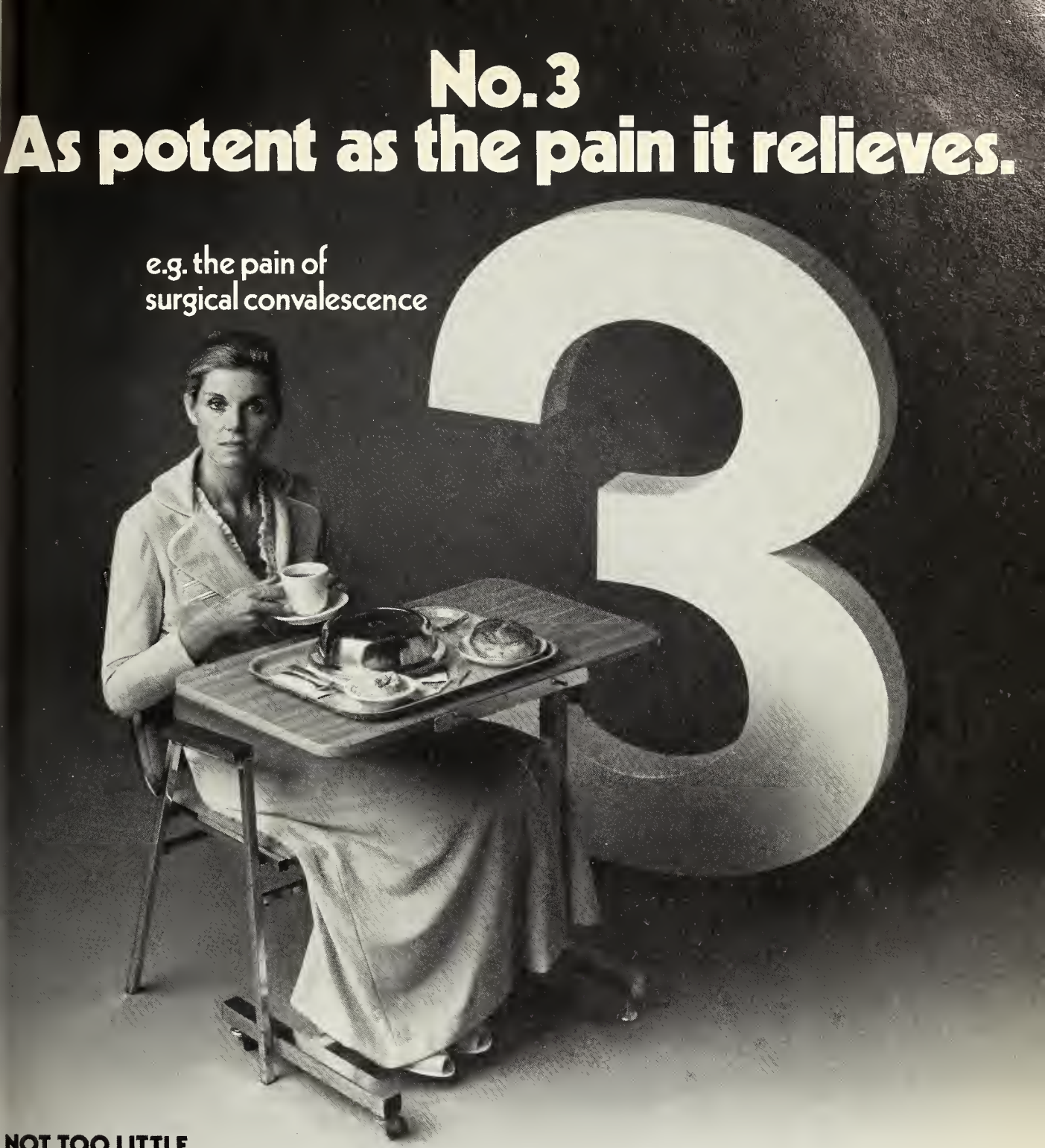
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1. Stock, J. M., Surks, M. I., and Oppenheimer, J. H. Replacement dosage of L-thyroxine in hypothyroidism. A re-evaluation. New Engl. J. Med. 290:529-33, 1974.

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DIVISION OF TRAVENOL LABORATORIES, INC.
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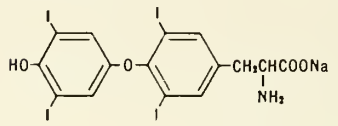
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Sodium Levothyroxine

Actions: SYNTHROID (sodium levothyroxine) **Tablets,** taken orally, provide hormone that is readily absorbed from the gastrointestinal tract. SYNTHROID **Injection** is effective by any parenteral route. Following absorption, the synthetic L-thyroxine provided by SYNTHROID products cannot be distinguished from L-thyroxine that is endogenously secreted. Each is bound to the same serum proteins and each exhibits a six to seven day circulating half-life in the euthyroid individual.

Both SYNTHROID products will provide L-thyroxine as a substrate for physiologic deiodination to L-triiodothyronine. Therefore, patients taking SYNTHROID products will demonstrate normal blood levels of L-triiodothyronine even when the thyroid gland has been surgically removed or destroyed by radioiodine. Administration of levothyroxine alone will result in complete physiologic thyroid replacement.

Indications: SYNTHROID (sodium levothyroxine) products serve as specific replacement therapy for reduced or absent thyroid function of any etiology. SYNTHROID **Injection** can be used intravenously whenever a rapid onset of effect is critical, and either intravenously or intramuscularly in hypothyroid patients whenever the oral route is precluded for long periods of time.

Contraindications: There are no absolute contraindications to SYNTHROID (sodium levothyroxine) therapy. Relative contraindications include acute myocardial infarction, uncorrected adrenal insufficiency and thyrotoxicosis (See WARNINGS)

Warnings: Patients with cardiovascular diseases warrant particularly close attention during the restoration of normal thyroid function by any thyroid drug. In such cases, low initial dosage increased slowly by small increments is indicated. Occasionally, the cardiovascular capacity of the patient is so compromised that the metabolic demands of the normal thyroid state cannot be met. Clinical judgment will then dictate either a less-than-complete restoration of thyroid status or reduction in thyroid dosage.

Endocrine disorders such as diabetes mellitus, adrenal insufficiency (Addison's disease), hypopituitarism and diabetes insipidus are characterized by signs and symptoms which may be diminished in severity or obscured by hypothyroidism. SYNTHROID (sodium levothyroxine) therapy for such patients may aggravate the intensity of previously obscured symptoms and require appropriate adjustment of therapeutic measures directed at these concomitant disorders.

Thyroid replacement may potentiate the effects of anticoagulants. Patients on anticoagulant therapy should have frequent prothrombin determinations when instituting thyroid replacement to gauge the need to reduce anticoagulant dosage.

Precautions: Overdosage with any thyroid drug may produce the signs and symptoms of thyrotoxicosis, but resistance to such factitious thyrotoxicosis is the general rule. With SYNTHROID (sodium levothyroxine) **Tablets,** the relatively slow onset of action minimizes the risk of overdose but close observation in the weeks following institution of a dosage regimen is advised. Treatment of thyroid hyperactivity induced by oral medication is confined to interruption of therapy for a week, followed by reinstitution of daily therapy at an appropriately reduced dosage.

Adverse reactions: Adverse reactions are due to overdose and are those of induced hyperthyroidism.

Dosage and administration: For most adults, a final dosage of 100 mcg (0.1 mg) to 200 mcg (0.2 mg) of SYNTHROID (sodium levothyroxine) **Tablets** daily will restore normal thyroid function and only occasionally will patients require larger doses. Failure to respond adequately to a daily oral intake of 400 mcg (0.4 mg) or more is rare and should prompt reconsideration of the diagnosis of hypothyroidism, special investigation of the patient in terms of malabsorption of L-thyroxine from the gastrointestinal tract or poor adherence to therapy.

The concomitant appearance of other diseases, especially cardiovascular diseases, usually dictates a replacement regimen with initial doses smaller than 100 mcg/day (0.1 mg).

In otherwise healthy adults with relatively recent onset of hypothyroidism, full replacement dose of 150 mcg (0.15 mg) or 200 mcg (0.2 mg) has been instituted immediately without untoward effect and with good therapeutic response. General experience, however, favors a more cautious approach in view of the possible presence of subclinical disorders of the cardiovascular system or endocrinopathies.

The age and general physical condition of the patient as well as the severity and duration of hypothyroid symptoms determine the starting dosage and the rate of incremental dosage increase leading to a final maintenance dosage. In the elderly patient with long standing disease, evidence of myxedematous infiltration and symptomatic, functional or electrocardiographic evidence of cardiovascular dysfunction, the starting dose may be as little as 25 mcg (0.025 mg) per day. Further incremental increases of 25 mcg (0.025 mg) per day may be instituted at three to four week intervals depending on patient response. Conversely, otherwise healthy adults may be started at higher daily dosage and raised to the full replacement dosage in two to three weeks. Clearly it is the physician's judgment of the severity of the disease and close observation of patient response which determines the rate of dosage titration.

Laboratory tests to monitor thyroid replacement therapy are of limited value. Although measurement of normal blood levels of thyroxine in patients on replacement regimens frequently coincides with the clinical impression of normal thyroid status, higher than normal levels on oral replacement of levothyroxine occasionally occur and should not be considered evidence of overdosage per se.

In all cases, clinical impression of the well-being of the patient takes precedence over laboratory determination in determining the appropriate individual dosage.

In infants and children, there is a great urgency to achieve full thyroid replacement because of the critical importance of thyroid hormone in sustaining growth and maturation. Despite the smaller body size the dosage needed to sustain a full rate of growth, development and general thriving is higher in the child than in the adult, as much as 300 mcg (0.3 mg) to 400 mcg (0.4 mg) per day.

In myxedema coma or stupor, without concomitant severe heart disease, 200 to 500 mcg of SYNTHROID **Injection** may be administered intravenously as a solution containing 100 mcg/ml. Although the patient may show evidence of increased responsivity within six to eight hours, full therapeutic effect may not be evident until the following day. An additional 100 to 300 mcg or more may be given on the second day if evidence of significant and progressive improvement has not occurred. Like the oral dosage form, SYNTHROID **Injection** produces a predictable increase in the circulating level of hormone with a long half-time. This usually precludes the need for multiple injections but continued daily administration of lesser amounts intravenously should be maintained until the patient is fully capable of accepting a daily oral dose.

In the presence of concomitant heart disease, the sudden administration of such large doses of L-thyroxine intravenously is clearly not without its cardiovascular risks. Under such circumstances, intravenous therapy should not be undertaken without weighing the alternative risks of the myxedema coma and the cardiovascular disease. Clinical judgment in this situation may dictate smaller intravenous doses of levothyroxine.

SYNTHROID **Injection** by intravenous or intramuscular routes can be substituted for the oral dosage form when ingestion of SYNTHROID **Tablets** is precluded for long periods of time.

How Supplied: SYNTHROID (sodium levothyroxine) **Tablets** are supplied as scored, color-coded compressed tablets in 6 concentrations: 25 mcg (0.025 mg)—orange . . . 50 mcg (0.05 mg)—white . . 100 mcg (0.1 mg)—yellow . . . 150 mcg (0.15 mg)—blue . . . 200 mcg (0.2 mg)—pink . . . 300 mcg (0.3 mg)—green.

SYNTHROID (sodium levothyroxine) for **Injection** is supplied in 10 ml vials containing 500 mcg of lyophilized active ingredient and 10 mg of Mannitol, U.S.P. A separate 5 ml vial containing Sodium Chloride Injection, U.S.P. is provided as a diluent.

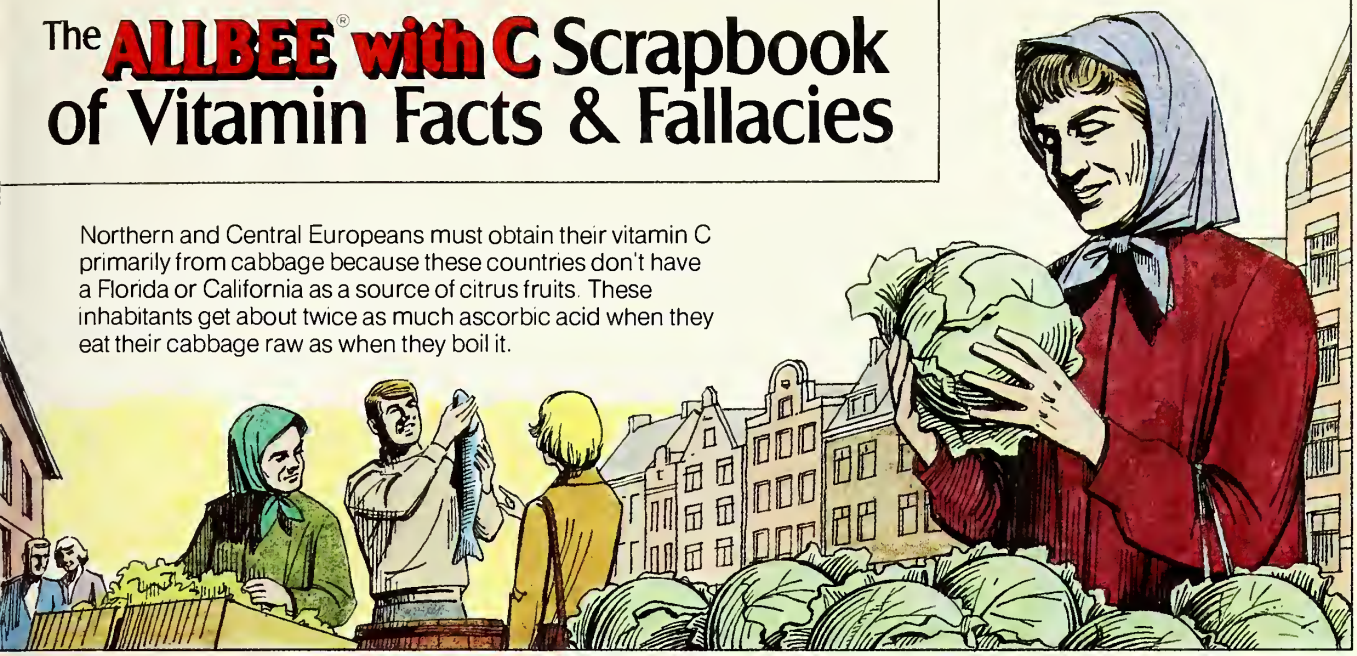
Directions for reconstitution: Reconstitute the lyophilized sodium levothyroxine by aseptically adding 5 ml of the Sodium Chloride Injection, U.S.P. to the vial. Shake vial to insure complete mixing. **Use immediately** after reconstitution. Discard any unused portion.

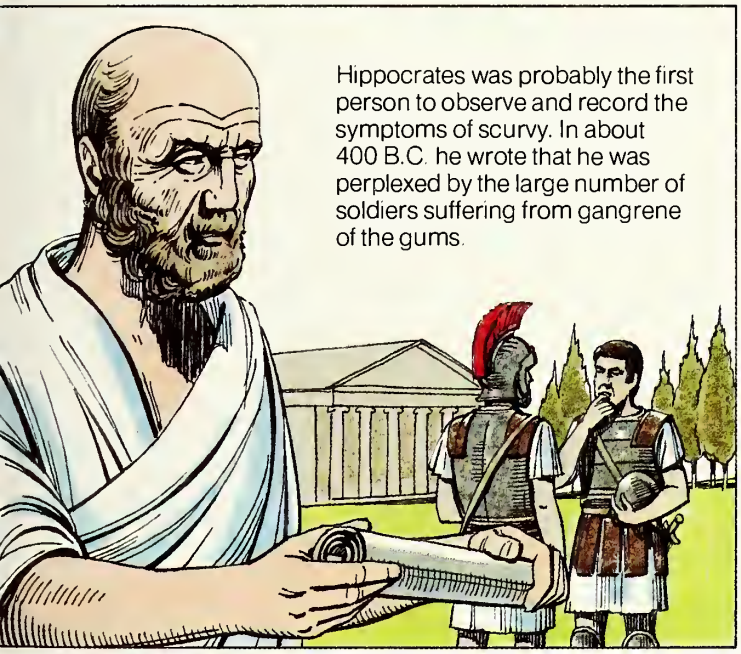
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January 1975

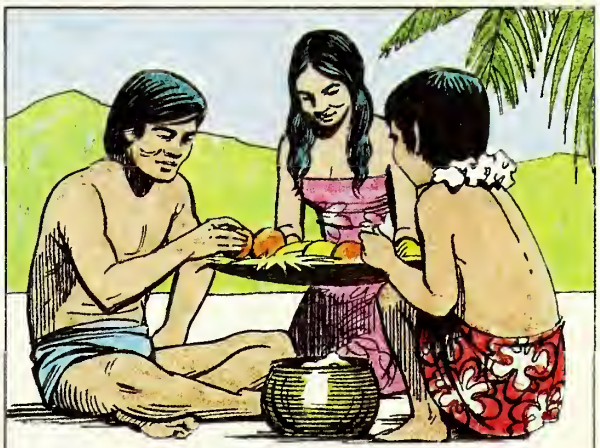
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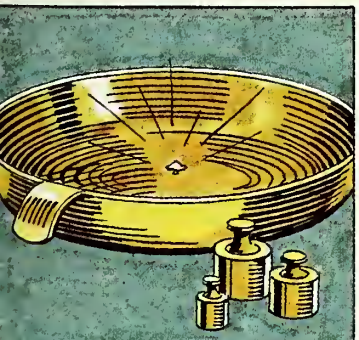




Hippocrates was probably the first person to observe and record the symptoms of scurvy. In about 400 B.C. he wrote that he was perplexed by the large number of soldiers suffering from gangrene of the gums.



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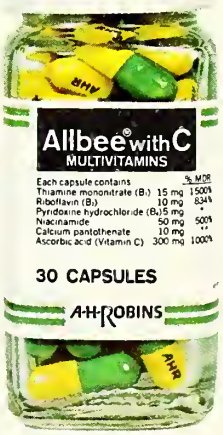


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Brief summary. Adverse Reactions: Blurring of vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur on higher dosage levels, rarely on usual dosage. Contraindications: Glaucoma; renal or hepatic disease; obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy); or hypersensitivity to any of the ingredients.

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- three dosage strengths to meet most therapeutic needs



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.
Contraindications: Patients with known hypersensitivity to the drug.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.
Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.
Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.
Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)
Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequ and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdr may be associated with temporary increase in frequency and/or severity o seizures. Advise against simultaneous gestion of alcohol and other CNS depr sants. Withdrawal symptoms (similar those with barbiturates and alcohol) h occurred following abrupt discontinu (convulsions, tremor, abdominal and cle cramps, vomiting and sweating). I addiction-prone individuals under car

respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and sustained. This means that improvement is usually apparent in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) Ⓡ IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic anxiety states with associated depressive symptoms

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of childbearing age, weigh potential benefit against possible hazard.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors or other antidepressants may potentiate action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVII, Number 6—June, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society. Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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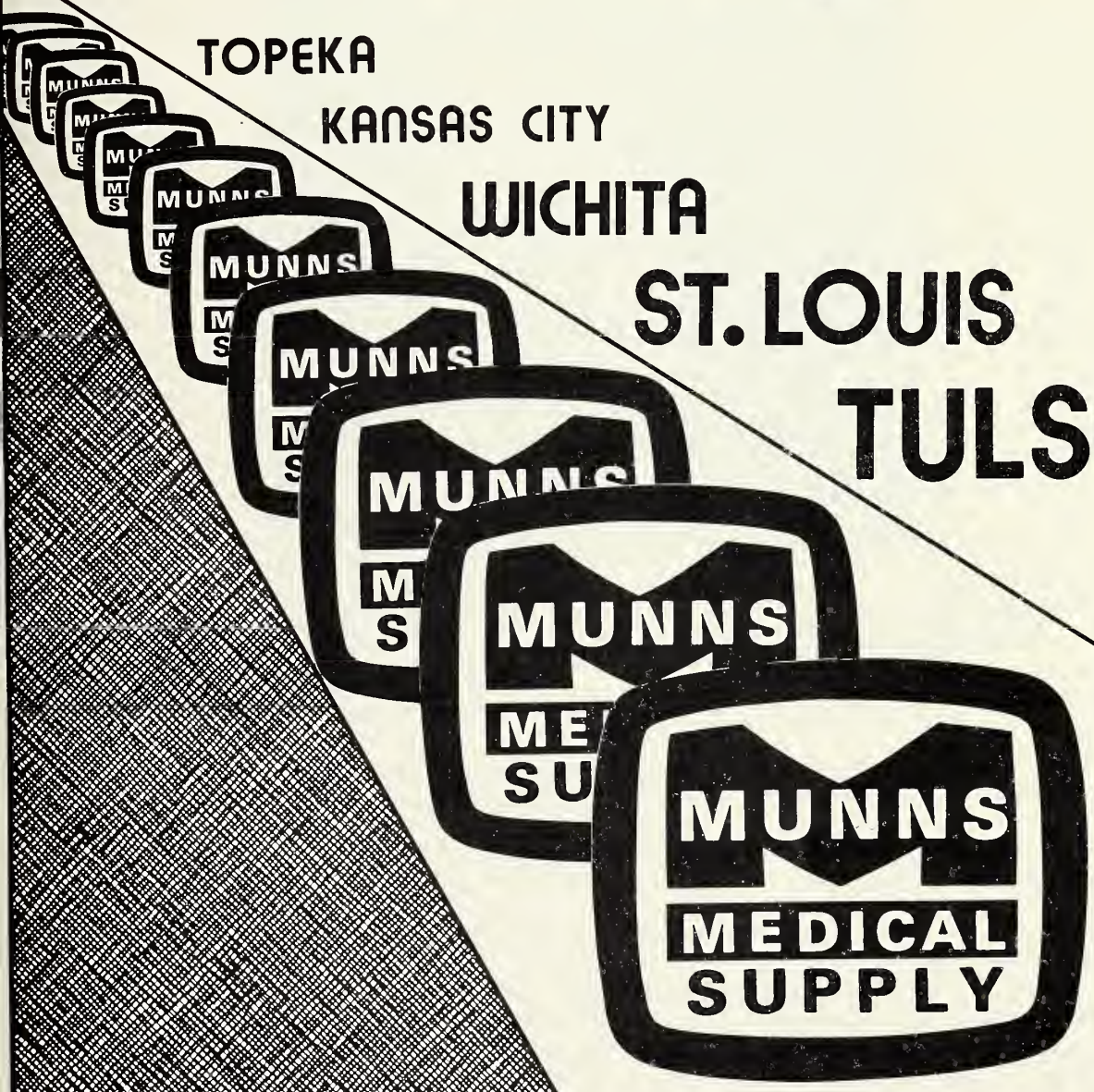
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Fill out the following quiz and YOU may win!

1) KFMC is:
 a) A Topeka radio station
 b) Kansas Federation of Moderate Conservatives
 c) Kansas Foundation for Medical Care
 d) None of the above
2) The major purpose of the KFMC is to:
 a) Develop a foundation to support unwed disc jockeys
 b) Develop a federation to curb "creeping socialism"
 c) Develop a foundaton to implement PSRO in Kansas
 d) None of the above
3) PSRO means:
 a) Pilot Study of Radish Odors
 b) Priorities Statisically Reexamined for Obscureness
 c) Professional Standards Review Organization
 d) None of the above
4) PSRO will affect you only if:
 a) You are an ex-marine who knits for a hobby
 b) You are a practicing Druid
 c) You practice medicine in the State of Kansas
 d) None of the above
5) PSRO must be implemented by:
 a) The residents of Disneyland East
 b) The June Taylor Dancers
 c) Kansas Physicians
 d) None of the above

The correct answers are (c) to every question. Score one point for every correct answer, and two points for each incorrect answer. If you scored more than one point . . . Congratulations! You are the winner of a free ticket to attend the next tidal wave in Kansas; and an invitation to attend the next meeting of the KFMC corporate body. All expenses will be paid by you, and there will be no charge for knowledge gained by you about the KFMC and PSRO. Check your mail! The notice for the next KFMC meeting will be coming soon.—*J.E.A.*

Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Friends:

During the state convention, a sizable AMA-ERF check for the Kansas University Medical School was presented to the new vice-chancellor, Dr. Robert Kugel. Most of this money was raised by our two efficient and dedicated medical Auxiliary co-chairmen, *Mmes.* John Yulich and Frank Bichlmeier of Kansas City. How many of you have made a personal, tax deductible contribution to AMA-ERF the past year? Many of your wives send "In Memoriams," make a yearly donation to cover the Christmas card project in several counties, and purchase numerous articles from our expert AMA-ERF chairmen, but during the convention the AMA-ERF county contribution chart indicated that Kansas physicians contributed an average of $1.00 per physician in direct contributions. With the financial problems at Kansas University Medical School that face Dr. Kugel, we sincerely believe a $25 contribution from each Kansas physician would certainly assist the programs and projects dependent on AMA-ERF contributions. All checks mailed to me will be forwarded to the AMA-ERF chairmen, and your county medical Auxiliary will be credited. Those with non-existent Auxiliaries will receive credit for your county. If you do not wish your contribution to be earmarked for KU, it can be credited to the medical school of your choice.

Also, during the state convention, medical Auxiliary wives were encouraged to write "thank-you" letters to Senator Wesley Sowers and to our state representatives and senators who supported the medical profession during the recent legislative session. Many letters were written to these individuals asking for assistance on the malpractice bills during the past year, and a "thank-you" letter is a courteous gesture. We ask you to join us in our letter writing.

Our very efficient International Health Chairman, Mrs.

(Continued on page 242)

Famous Fighters



NEOSPORIN® Ointment
(polymyxin B-bacitracin-neomycin)
is a famous fighter, too.

Provides overlapping, broad-spectrum antibacterial action to help combat infection caused by common susceptible pathogens (including staph and strep).

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NDICATIONS: Therapeutically (as an adjunct to systemic therapy when indicated) r topical infections, primary or secondary, due to susceptible organisms, as in: infected burns, skin grafts, surgical incisions, otitis externa • primary yodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily fected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic sions, inflamed or suppurating as a result of bacterial infection.

rophylactically, the ointment may be used to prevent bacterial contamination in urns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts nd wounds accidentally incurred, its use may prevent the development of infec- on and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or xternal ear canal if the eardrum is perforated. This product is contraindicated in hose individuals who have shown hypersensitivity to any of the components. **VARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

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Testing in Humans: Who, Where & When.

he weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent device must be determined through nical research.

But now the *practice* of clinical research is under appraisal by Congress, the ess and the general public. Who shall minister it? On whom are the products be tested? Under what circumstances? nd how shall results be evaluated and ilized?

The Pharmaceutical Manufacturers ssociation represents firms that are significantly engaged in the discovery and velopment of new medicines, medical vices and diagnostic products. Clinical search is essential to their efforts. Consequently, PMA formulated positions hich it submitted on July 11, 1975, to e Subcommittee on Health of the Sene Labor and Public Welfare Committee, its official policy recommendations. ere are the essentials of PMA's current inking in this vital area.

1. PMA supports the mandate and ission of the National Commission for e Protection of Human Subjects of iomedical and Behavioral Research and fers to establish a special committee mposed of experts of appropriate isciplines familiar with the industry's search methodology to volunteer its rvice to the Commission.

2. PMA supports the formation of an ndependent, expert, broadly based and epresentative panel to assess the current tate of drug innovation and the impact pon it of existing laws, regulations and rocedures.

3. When FDA proposes regulations, t should prepare and publish in the *Federal Register* a detailed statement assessng the impact of those regulations on rug and device innovation.

4. PMA proposes that an appropritely qualified medical organization be ncouraged to undertake a comprehensive study of the optimum roles and esponsibilities of the sponsor and physian when company-sponsored clinical esearch is performed by independent linical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct nontherapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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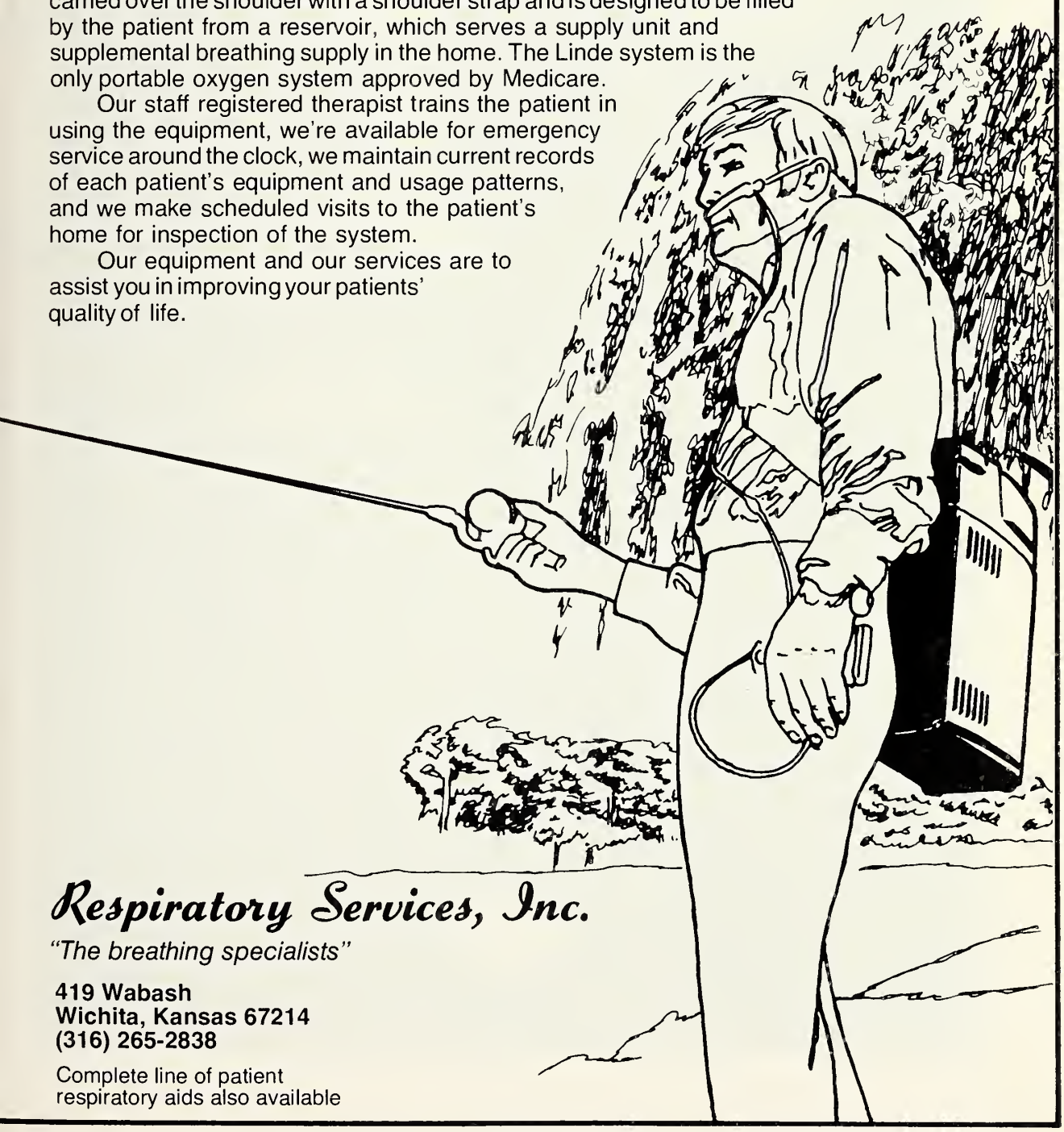
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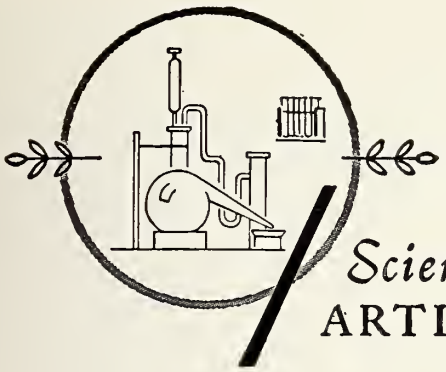
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Problem in Pathogenesis

Benign Liver Tumor in a Patient Taking Contraceptive Steroids

BERNARD B. MEGAFFIN, M.D. *and*
CREIGHTON A. HARDIN, M.D., *Kansas City, Kansas*

STUDIES CONDUCTED in late 1960 first documented the increased likelihood of women ingesting oral contraceptive agents to develop thromboembolic processes, occasionally resulting in death.[1] Coexistent were reports from a number of observers of the appearance of Budd-Chiari syndrome in patients on a regimen of oral contraceptive drugs.[2–6] Within the past three years, a consistently increasing number of case reports have appeared in literature, describing the occurrence of benign tumors in the livers of women taking oral contraceptives.[7–16]

While there has been some difference of opinion as to the exact histopathologic classification into which these tumors fall, there is general agreement that they are non-neoplastic growths. This apparent benignancy is belied by the fact that quite often these tumors are discovered after their spontaneous rupture, resulting in life-threatening hemorrhage.

Case Report

A 28-year-old black female was admitted to the gynecology service because of a one-year history of menometrorrhagia and dysmenorrhea. Approximately one year prior to admission, the patient was told that she had a fibroid uterus, which was documented as being consistent with the size of a six-to-eight-week pregnancy. She also complained of increased abdominal girth, most prominent in the pelvic region and right-upper quadrant, which was noticeable over the previous six months. At the time of admission, she also complained of cramping gas pains, relieved by antacids, which she had experienced for a week's duration. She also described episodic (3-4 times per month) hyperdefecation and diarrhea, resulting in five to six stools per day.

A case report of a benign hepatic tumor in a patient taking contraceptive steroids is presented.

The patient was taking no prescription medications upon admission to the hospital. She related that at age 21, she was given oral contraceptives for three months to regulate her periods. She had taken birth control pills only intermittently for the five years prior to admission, because of episodic nausea, vomiting, and hypertension. Nor QD (norethindrone, 0.35 mg) therapy was started two years prior to admission, which she had taken at intervals, the most recent being from 14 until 5 months prior to admission.

On physical examination, her blood pressure was

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TABLE I

*Case**	*Diagnosis*	*Age (Years)*	*Oral Contraceptive*	*Duration of Contraceptive (Years)*	*Presentation*	*Location*	*Management*	*Outcome*
1	Benign hepatoma	26	Norethynodrel and mestranol	2	Intraperitoneal hemorrhage and shock	Left lobe	Left hepatic lobectomy	Alive at 4 years
2	Benign hepatoma	27	Dimethisterone and ethinyl Estradiol	Unknown	Intraperitoneal hemorrhage and shock	Right lobe	Right hepatectomy	Dead, cardiac arrest
3	Benign hepatoma	25	Unknown	6	Right upper quadrant mass	Left lobe	Tumor excision through pedicle	Alive
4	Benign hepatoma	25	Norgestrol and ethinyl Estradiol	½	Abdominal pain, shock and anemia	Right lobe	Right hepatectomy	Alive at 2 months
5	Benign hepatoma	29	Norethynodrel and mestranol	5	Right upper quadrant mass, self-detected	Right lobe	Excision of tumor with rim of normal tissue	Alive at 3½ years
6	Benign hepatoma		Multiple	7	Intraperitoneal hemorrhage and shock	Right lobe	Right hepatectomy	Alive at 15 months
7	Benign hepatoma	39	Norethynodrel and mestranol	7	Intraperitoneal hemorrhage	Right lobe	Right hepatectomy	Alive at 2 months
8	Benign hepatoma	37	Norethynodrel and ethinyl Estradiol	Many years	Massive intraperitoneal hemorrhage	Right lobe	Identified at necropsy	Dead
9	Spontaneous rupture†	28	Ethynodiol Diacetate mestranol	2	Abdominal pain and intraperitoneal hemorrhage	Right lobe	Right lobectomy	Alive at 2 years
10	Hepatic-cell adenoma	33	Norethindrone and mestranol	Several years	Severe right upper quadrant pain	Right lobe	Right hepatectomy	Dead, post-op. complications
11	Benign hepatoma	36	Norgestrel and ethinyl Estradiol	5 to 6	Intraperitoneal hemorrhage and shock	Right lobe	Right lobectomy	Dead, cardiac arrest post-op.
12	Benign hepatoma	28	Norethisterone and mestranol	7	Pain, palpable mass	Right lobe	Right hepatectomy	Unknown
13	Focal nodular	42	Norethynodrel and mestranol	5	Abdominal pain	Right lobe	Right lobectomy	Alive at 2 years
14	Focal nodular hyperplasia	26	Norethynodrel and mestranol	7	Intraperitoneal hemorrhage and shock	Right lobe	Right lobectomy	Alive at 1 year
15	Focal nodular hyperplasia	25	Norethynodrel and mestranol	5	Intrahepatic hemorrhage	Left lobe	Left lobectomy	Alive at 5 years
16	Focal nodular hyperplasia	22	Norethindrone and mestranol	8	Severe abdominal and shoulder pain and shock	Unknown	Surgical resection	Alive at 2 years
17	Liver hamartoma	34	Lynoestrenol-mestranol, ethynodiol-mestranol, norethisterone-mestranol	4	Dizziness, headaches, right upper quadrant mass	Right lobe	Right hepatectomy	Alive at 4 years

TABLE I (continued)

Case*	Diagnosis	Age (Years)	Oral Contraceptive	Duration of Contraceptive (Years)	Presentation	Location	Management	Outcome
18	Liver hamartoma	35	Norethisterone and mestranol	5	Epigastric mass found by patient	Left lobe	Biopsy	Alive at 3 months
19	Liver hamartoma	51	Norethisterone and mestranol	8	Mass found at cholecystectomy	Right lobe	Local resection	Alive at 2 months
20	"Liver-cell neoplasm"	23	Unknown	5	Liver mass	Unknown	Subtotal resection	Dead 1 month post-op.
21	Benign hepatoma	32	Unknown	8	Hemorrhage from liver mass	Unknown	Identified at necropsy	Dead
22	Benign hepatoma	24	Unknown	Unknown	Hemorrhage from liver mass	Unknown	Identified at necropsy	Dead
23	Benign hepatoma	27	Denied use	—	Hemorrhage from liver mass during ninth month of pregnancy	Unknown	Identified at necropsy	Dead
24	Liver tumor	34	Norethisterone and mestranol	7	Intraperitoneal hemorrhage and shock	Right lobe	Not specified	Dead despite repeated surgical interventions
25	Focal nodular	28	Norethindrone	7	Hepatomegaly (mass discovered by abdominal exploration at time of total abdominal hysterectomy)	Right lobe	Excision of tumor with rim of normal tissue	Alive at 1 month

* Cases 1-7, Baum, *et al.;* Case 8, Contostavlos; Case 9, Frederick, *et al.;* Case 10, Knapp and Ruebner; Case 11, Kelso; Case 12, Horvath, *et al.;* Case 13, Mays, *et al.;* Cases 14-15, Mays, *et al.;* Case 16, Mays, *et al.,* addendum; Cases 17-19, O'Sullivan and Wilding; Cases 20-23, Berg, *et al.;* Case 24, Vosnides; Case 25, present case report.

† No mention of liver tumor on examination of pathologic specimen.

140/110 mm Hg in sitting and supine position. Pulse, temperature, and respirations were within normal limits. Examination of the abdomen revealed uniformly decreased bowel sounds, and the liver span was percussed to 14 cm. The liver edge was not palpable. A right-upper quadrant mass was suspected. There was dullness to percussion in an area in the midline from 12 cm above the symphysis pubis to the symphysis. There was tenderness to palpation throughout the entire lower abdomen.

Admission laboratory work results were normal, with the exception of alkaline phosphatase, which was 6.1 ml/min. Chest x-ray was normal. A pelvic sonogram showed evidence of a large, lobulated mass in the mid and right pelvis, displacing the urinary bladder to the left. This was found to be an enlarged uterus. Barium enema showed a large, midline pelvic mass, elevating the sigmoid colon out of the pelvis. A right-upper quadrant mass displaced the hepatic flexure of the colon. An intravenous pyelogram showed that the lower pole of the right kidney was somewhat medially directed. The renal outlines were normal.

An exploratory laparotomy was performed on the third hospital day. An enlarged uterus contained multiple leiomyomas, both intramural and subserosal. There was widespread pelvic endometriosis, with fibrous adhesions of both ovaries and tubes. A total abdominal hysterectomy, with bilateral salpingo-oophorectomy, was performed. Manual exploration revealed an 8 × 10-cm mass in the right lobe of the liver. Liver biopsy was reported as being consistent with a cirrhotic nodule. Postoperatively, the patient was transferred to the general surgery service.

On the eighth hospital day, the patient underwent a second exploratory laparotomy for excision of the hepatic tumor. A partial right hepatic lobectomy was done. The patient's postoperative course was unremarkable and she was discharged from the hospital on the eighth postoperative day.

Pathology

The pathology of a specimen of liver, right lobe, was as follows. *Gross Pathology:* The specimen submitted weighed 390 gm and measured 10.5 × 9.5 × 4 cm. There was a defect in the liver capsule at one pole, the site of the previous biopsy. The liver capsule was otherwise intact, and covered with fibrinous adhesions. The specimen of liver tissue contained a golden-yellow nodule which did not penetrate the liver capsule at any point. The resection margin contained two small nodules measuring 0.7 cm in diameter. They were also golden-yellow in color. The specimen was bisected, revealing a homogenous tumor with scalloped borders. There was central necrosis and hemorrhage of the main tumor mass. A central stellate area of fibrosis was noted. No invasion of the veins was grossly identifiable.

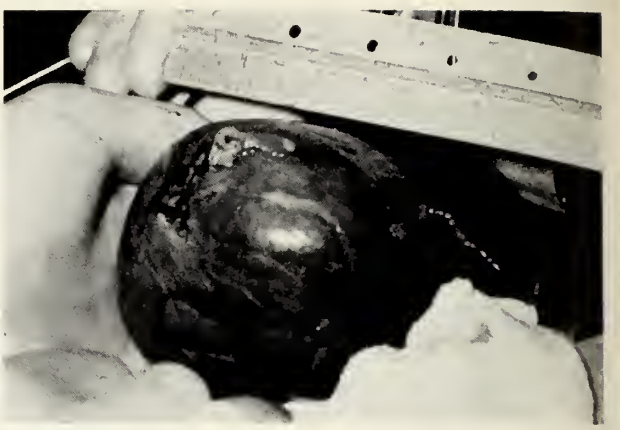


Figure 1. Gross appearance of right hepatic lobe tumor at laparotomy.

Histological Pathology: By light microscopy, the lesion was found to be composed of closely opposed cords of rather mature hepatocytes, lacking lobular architecture, and devoid of portal triads. Nucleoli was prominent and mitotic activity was meager. The sparsity of portal triads and irregular arrangement of the cells presented an adenomatous appearance. There was sharp demarcation between the tumor tissue and normal liver tissue, a tumor capsule being absent. Neither bile formation nor cholestasis were noted.

Diagnosis: The diagnosis after microscopic examination was focal massive hepatocellular adenomatous hyperplasia of the right lobe of the liver, a description synonymous with focal nodular hyperplasia of liver tissue. The findings were consistent, in light of the history of progesterone contraceptive therapy, with the previously described "pill adenoma" of the liver.

Discussion

Primary benign liver tumors are known to be quite rare. Henson *et al.*[17] reviewed all of the benign liver tumors seen at the Mayo Clinic between 1907 and 1954. They found only 4 benign hepatomas, 35 hemangiomas, 9 benign cholangioadenomas, and 76 non-parasitic cysts. The initial report of the appearance of primary benign liver tumors in young women taking oral contraceptive medications was made by Baum *et al.*,[7] in October, 1973. This report has been followed by a number of subsequent reports of similar cases.[8-16] A careful review of the literature has disclosed 24 such reports (not including the case presented here), which are summarized in *Table I.*

The average age of the patients in this group of case reports was 30.6 years (range 22-51 years). The duration of ingestion of oral contraceptives averaged 5.6

years (range 6 months to 8 years). Only one of the 25 patients described denied having ever taken oral contraceptives (she was in her ninth month of pregnancy at the time of discovery of her tumor). The most predominant major presenting symptom of this group was intraperitoneal hemorrhage and shock, which was noted in 15 of 25 patients (60%). Exclusive of or coincident with hemorrhage, the discovery of an abdominal mass and severe pain were presenting symptoms with respective frequencies of 32 per cent (8) and 24 per cent (6) in this series of patients. In 16 of the 20 patients about whom this information was available (an incidence rate of 80%), the tumor was located in the right lobe of the liver. In the remaining 20 per cent (4), the tumor mass was in the left lobe. A total mortality rate of 37.5 per cent (9) was recorded for those not lost to followup. Five of these nine patients (55%) died of complications in the immediate postoperative period, and the remaining four died as a result of hemorrhage from rupture of the tumor.

The results of liver function tests in patients who have presented with these tumors were normal. The tumors are difficult to define without the aid of radioisotopic scanning or selective arteriography. No correlation has been identified between diet or the particular type of oral contraceptive ingested. Blood clotting studies have been found to be normal, and there is no correlation between any blood type or group.[18]

The cause and pathogenesis of these tumors are at this time undefined. It has been known for at least 10-15 years that anabolic and contraceptive steroid hormones can give rise to various changes in human and animal livers. Anabolic and contraceptive steriods have been shown to produce alterations in the fine structure of the liver cell, observable only by electron microscopy.[19] These same changes have been shown to be present in the regenerated hepatocytes of the pill-related tumor described by Horvath *et al.*[12] The most frequent manifestation of liver dysfunction as a result of oral contraceptive ingestion is the development of a cholestatic-type jaundice. The development of liver-cell neoplasia has been reported by two groups as occurring in patients receiving treatment (1 for Fanconi's anemia, 4 for aplastic anemia) with androgenic anabolic steroids.[20, 21]

The initial histopathologic descriptions of these tumors characterized them as being either benign hepatomas or hepatic-cell adenomas. Mays, Christopherson, and Barrows[13] have taken exception to these histopathologic designations, suggesting that these tumors are instead benign focal nodular hyperplasia of liver tissue. They base their hypothesis upon the established rarity of true liver-cell adenomas, and by a direct comparison of the three tumors that they have encountered (cases 13-15, *Table I)* with true hepatic-cell adenoma of which they had firsthand observation. The adenoma that they used for comparison, a case later confirmed by Edmondson, had a well-defined capsule and was without the vascular changes, areas of necrosis, or hemorrhage seen in the tumors of the young women.

Vascular changes are important to the pathogenetic mechanism as they are responsible for the formation of the tumors. The vascular lesions that were observed were located in the interlobular branches of both afferent veins and arteries, usually near the areas of infarction necrosis. There was phlebitis of the portal veins together with varying stages of thrombosis. At times the lumen was totally, or near-totally, occluded. The interlobular branches of the hepatic artery often showed marked hypertrophy of the media with varying degrees of occlusion. Two types of early lesions were occasionally noted. One was fresh, organizing thrombi of small vessels; the other appeared to be intimal proliferation and swelling. While the afferent veins, and to a lesser extent the arteries, could be identified as being involved, they could not prove involvement of the hepatic veins. These vascular lesions involving the afferent vessels, especially the interlobular branches of the portal vein, in addition to the previously mentioned reports of fatal endophlebitis and thrombosis of the hepatic veins with hepatic infarction (Budd-Chiari syndrome), associated with oral contraceptive ingestion, suggested to Mays *et al.*[13] that thrombus formation in the afferent vessels may lead to infarction of liver tissue, and result in the development of focal nodular hyperplasia.

While present evidence strongly suggests an association between focal nodular hyperplasia and oral contraceptive ingestion, observation and further study are necessary to confirm or deny hypotheses such as the one suggested above. It has been suggested that with the advent of lower dosage contraceptives (such as the "mini-pill") the risk of developing pill-related tumors will decrease. However, in our case, the patient was in fact receiving a low-dose, synthetic progestin "mini-pill" immediately prior to the appearance of the tumor. While it is probably safe to conclude, considering the millions of women currently taking oral contraceptives, that the risk of developing a liver tumor that will eventually rupture and hemorrhage is small, it is at this time impossible to predict the frequency of similar, asymptomatic lesions presently existing in the livers of women taking contraceptive steroids.

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(Continued on page 245)

Applied Behavioral Sciences

Toward Understanding Human Behavior and Motivation

TOBIAS BROCHER, M.D., *Topeka*

The Menninger Foundation has a long tradition of translating medical and psychiatric knowledge and research results into plain English, so that psychiatric experiences become applicable in day-to-day social actions. During the past 18 years, more than 4,000 family practitioners, occupational physicians, business, industry and government executives, teachers, and theologians have participated in various seminars which provide an opportunity for emotional and experiential learning.

Incredible progress in technology, biochemistry and physics, and the overwhelming data from detailed research results have created rapid changes in values, attitudes, and beliefs. The information overload many people face every day becomes limited by our mental and psychological capacity.

This has varied results, and one of the most important consequences is the increasing need to look for remedies for illnesses. Every physician knows that many of the illnesses and symptoms of modern life cannot be cured by medication. Leon Eisenberg[1] has pointed out that what we choose to believe about the nature of man will have social consequences. If we subscribe to the concept of an inevitable, spontaneous, aggressive instinct as the main source of human behavior, our psychosocial models will be different than if we subscribe to a position which assumes that most mechanisms for aggressive behavior are not autonomous, but are shaped by institutions and organizations as social systems, rather than by the individual.

The Menninger Foundation expanded the previous Division of Industrial Mental Health by opening a new Center for Applied Behavioral Sciences. In the new center, the results of 15 years of experience and research of the attitudes of various professions within different types of organizational settings and social subsystems can reveal substantial data about those factors which constitute physical illnesses long before any dysfunctional symptoms are recognized. What we euphemistically call "our civilization" seems to be an insurmountable network of institutions. We assume that these institutions and organizational structures provide support for the civilized life of the individual, because these institutions emerged out of the interaction of man's biological needs. But, according to Marmor,[2] once these institutions have been formed, they acquire a life of their own, a functional autonomy . . . by virtue of which they thenceforth play a profoundly important role in shaping the personalities of human beings who grow up in their sphere of influence.

A Center for Applied Behavioral Sciences, at the Menninger Foundation, serves to alleviate physiological and biochemical dysfunction in highly pressured executives via an intrapsychic process. The meaning and consequences of structure, the impact of change, the importance of psychological contracts, and the problems of morale and prejudice are part of this cognitive input which leads to the crucial problem of modern man: the dilemma of responsibility to self, as opposed to societal or institutional needs.

It can be left open for further discussion how well this basic hypothesis might apply also to medical education, and the impact of industrial organizations on shaping personalities and perceptions. Although we have had many experiences with family practitioners and occupational physicians confirming such influences, I will limit myself to the more general findings within other professions which we have recognized during the basic seminar.

These seminars are designed as a process which develops over a five-day time span. The structure provides a coordination of cognitive input and experiential learning. The cognitive content is geared toward an intrapsychic process, which is mobilized in various degrees by the individual accepting or rejecting the potentials for reflection and temporary identification. Understanding the principles of growth and development, the critical phases of the life cycle, and the basic factors of personality functioning leads to the application of these insights in human interaction. The meaning and conse-

Presented at the 116th Annual Meeting of the Kansas Medical Society, May 6, 1975, Overland Park.

From the Menninger Foundation, Box 829, Topeka, 66601. Address reprint requests to Dr. Brocher.

quences of structure, the impact of change, the importance of psychological contracts, and the problems of morale and prejudice are part of the cognitive input which leads to the crucial problem of modern man: The dilemma of responsibility to self, as opposed to societal or institutional needs.

Within a carefully guided group experience, supported by qualified professionals (psychiatrists and psychologists), the individual participant is free to apply and experiment with the concepts he assimilates during the week. A personal, open interview with a psychiatrist, separate from the seminar, and short personality assessment tests complete the opportunity for a different type of learning than the usual one-way communication of common teaching-learning models. Basically, the individual realizes from the initial orientation meeting that his gain will depend on his willingness to invest himself. He can get out of the experience only what he is ready to give. This includes the lively experience of risking himself in competitive or frustrating situations, dealing with his fears and hopes, as well as comparing irrational expectations with reality.

In modern society, we are accustomed to living with the theoretical assumption that our lives are following the rhythm of eight hours of work, eight hours of leisure, and eight hours of sleep a day. Reality for many people is quite different. They sleep less, they work more, and often they forget how to relax, play, or consider their own personal interests. They become "workaholics." The usual rationalization for this type of behavior is the inevitable pressure and stress of never-ending work demands. We have learned from more than 60 per cent of our participants that this is not true. Many men have openly declared that they could easily complete their average work within 30 hours per week. The hidden motive to work more than 60-70 hours per week is often a way to avoid a serious conflict. During mid-life crisis, the average successful executive has reached a level where he finds himself on a plateau in the midst of daily routine work. While he might be in a leading position at work, often his teenage children are challenging him in his role as a father. To avoid a conflict and a task which was previously left mainly to his wife, he clings to his work and invents the myth of being overworked. That way he can save his idealized self-image of being a strong leader in his professional role without experiencing the painful change which is inevitably stirred up by his growing children.

The importance of developmental stages of various illnesses which cannot be diagnosed because there are no symptoms of physical dysfunction was mentioned above. At a medical convention as a physician, I would hesitate to present these examples and experiences to my colleagues if they were not connected with the daily experiences of most practitioners in their work with individual patients. We all are familiar with psychosomatic symptoms related to stress and specific emotional experiences or conflicts. The real conflict of the average executive in his mid-life crisis seems to be his identity. Therefore, in our seminars, we hear over and over such questions as: Who am I? Where do I go from here? What happened to me? Why did I miss what I wanted? Why am I doing all this? Where do I really want to go? What is my organization doing to me? What am I doing to others? Why do I envy my children for their greater freedom? Why do I repeat certain behavior and situations I really don't like?

Many similar questions are asked during a seminar week, but most of them focus on the inner conflict between a genuine, personal, unique identity and a borrowed social or professional role which is expected to cover the lack of sufficient self-identity. After more than 50 years of psychosomatic research, we know the long-term impact of repressed or denied emotional conflict on the biophysiological defense system. We have found some of the trigger mechanisms which show the biochemical and physiological equivalents of psychological conflict. But here again, the functional autonomy of institutionalized medicine, as well as the alienating functional autonomy of large, powerful organizations, may blur our vision to the degree that we finally assume that an emotional conflict could not cause important metabolic changes, unless the organic system fails and thereby causes secondary emotional epiphenomena. Invisible and unconscious, repressed psychic conflicts in the individual are indeed caused by environmental circumstances and inescapable situations, which we have built like mouse traps into organizations and institutions. Unfortunately, there are no pills or useful chemicals to take care of the problems of loneliness, repressed anxieties, or nagging self-doubts. The idealized image of the successful organizational man demands that he be tough and aggressively competitive. The price he pays is the neglect of his emotional life, which remains so underdeveloped that often his wife and children suffer from neglect. He pays a higher price when he denies his psychological vulnerability, his fear to be considered as weak, which forces him into a position which is known to every physician as a type-A-personality, prone to coronary illness and sudden, unexpected death from a heart attack.

Can we prevent such development? When Dr. William C. Menninger applied experiences with military leaders during World War II to leaders in business, industry and government, he knew to what degree awareness and consequences of human interaction, group dynamics, and organizational pressure could contribute to either improving or diminishing the quality of life.

Preventive medicine has been one of the stepchildren

of modern society, as if unconsciously we would be interested in keeping the death rate at a level equal to or possibly higher than the birth rate. One of the reasons has been the prevailing aversion to and the resistance of psychology *in* medicine—a problem which cannot be solved without more insight into the psychology *of* medicine. The actual attack, as mirrored by increasing malpractice accusations, may be a symptom which is signaling expectations we have not been able to fulfill. It would be self-destructing to make promises at this point which we might not be able to fulfill in the near future. However, serious thought should be given to what is missing in our standard medical education, as well as within our system. The tendency today to reestablish the old concept of the family physician points more to the patient's social, human need than to the patient's need for more technical research, although the latter will be more important than ever. The dimension that many people are looking for is exactly the interpersonal, trustworthy relationship in which the individual can unburden, and possibly find new encouragement for his real life goals.

We asked hundreds of our participants the question: Do you have someone to talk to about your very personal feelings? We were mildly shocked with the response. The typical answer of an average executive (not just in the USA, but also in other Western countries) sums it up for more than 80 per cent of the random sample: "No, my wife wants to talk about her problems, or she does not want to hear anything which might burden her, and when I talk to my dog, he runs away!"

In the future, the preventive part of medicine may be the most important task if we want to have a society with less violence and distrust, and with better physical and mental health. In our work with an annual average of 800-1,000 executives in leading positions, we see as one part of preventive medicine the promotion of the improvement of the quality of life. The American Constitution guarantees the right to the pursuit of happiness, but we seem far away from an awareness of what human needs are and what real happiness could be. The image of happiness seems to be an unexpected congruency between our hopeful fantasies and reality. Our experience with executives and leaders in various professions shows it is the unexplored and undeveloped part of life which becomes flooded and choked by the rigid repetition of mechanical behavior—leaving one part of life unlived. One is tempted to draw a biological parallel with the healthy human organism in which uncontrolled malignant growth imposes its code, thereby enslaving, paralyzing, and destroying all other healthy cell functions.

It may be our task in the future to break this organizational and institutional code which imposes the malignant growth of routineness and redundancy on the individual's life, thereby enslaving his healthy, free interest for new creative development. There seems a necessity for an alternative future if we look at the facts. Although this field in preventive medicine is new, and many factors and variables are unknown, we are encouraged by the many requests for individual executive consultations and group and organizational consultations.

It is certainly possible to reject the whole concept, because it seems to enter the field of neighboring disciplines, such as sociology, psychology or even business management and, thereby, betrays the primary task of medicine: to treat illness. We perceive this as a narrowing view which neglects the fact that the average person spends a minimum of eight hours a day working, which to a great extent determines his life and his material existence.

In struggling with societal and organizational pressure in the past, we have tried the economic, sociological, and political approaches. They have failed. For many years we have been hesitating to use the medical-psychological approach because it would confront everybody with himself—including the physician, his institution, and organizations. If we confront the serious problems of leadership in technological societies, we will have to develop appropriate criteria for successful interventions. No treatment is possible without diagnosis. Recent studies proved that up to 60 per cent of patients seen by medical practitioners and in out-patient clinics complained about physical pain or illnesses that did not show any relevant pathological, physiological, or chemical data. They had so-called functional syndromes or symptoms. We overlooked the fact that most patients feel obliged to present their complaints in medical language to be accepted and understood by the physician, although the real conflict might be of a psychological nature. The data we have gathered in our seminars reveal that the practicing physician, regrettably, is no longer perceived as the person who the patient feels could deal with personal problems of his life and development. We seem to neglect a responsibility which was considered the primary task of the previous family physician: to care for the development, life-style, and conflicts of his patient. In old China, the family doctor was paid as long as his patients stayed healthy, and the honorarium ceased when the patients became sick. It seemed a wise way—to be interested in the patient's well-being and to guide his life decisions, so he could maintain his physical and mental health. We lost part of this trust and intimacy, and we ended up with our fears about malpractice suits in the same way the executives fear the loss of profit by their companies.

Often it is not pleasant to confront our participants with painful insights, but no learning takes place without

mild frustration, and the mild, temporary depression in facing reality seems healthier than massive denial and repression, which promote accumulation of unsolved conflicts. This includes us, the staff members, physicians, and practitioners, who are continually confronted with our own doubts and continuous search for appropriate solutions. The main tools we use are empathy, introspection and temporary identification, all of which promote understanding.

Ralph and Lucy Zabarenko and Rex Pittenger recently published a study of various styles of medical practitioners. The physician can fall victim to an institutional image, in a way similar to an executive becoming a slave for an organizational myth which is not confirmed by reality testing—a result which has caused difficulties and conflicts for many occupational physicians. However, our experiences seem to prove the need for close cooperation with all family practitioners and physicians who are interested in a new type of preventive medicine which deals with repressed conflicts before they reach the level of secondary repression, and then lead to physiological and biochemical dysfunction as a definite state of beginning chronic illness and disease. The vital balance is determined by a systemic state of well-being. The more any individual becomes desperate in being unable to solve serious life conflicts, which might have seemed unimportant at first glance, the more this vital balance is endangered. Maybe we need to begin thinking of diagnostic life assessment in broader terms. We have been asked to do this by various management consultants, because many executives have complained that the routine annual health check-up neglected completely their need for discussing deeper concerns.

This descriptive overview of concealed emotional problems in leadership is not just a variable unique to the American scene, but it is confirmed by our colleagues in similar fields in European countries. We begin to recognize the price we paid for the tremendously rapid technical development, which overwhelmed our capacity to cope with continuous change. Unless we find new ways for multidisciplinary cooperation, the individual discipline might get lost and miss the complexity of data we must deal with.

Aside from the pioneer work of the Menninger brothers over the past 50 years, there is another justification for the goals and objectives of our Center for Applied Behavioral Sciences. It is best stated in Judd Marmor's[2] perspective: *Psychiatry in Transition:*

> The massive obstacle in our way is not our innate biology but our acquired psychology—the programmed set of needs, values, attitudes and prejudices—indeed our very language and our perceptions—which have been shaped and deeply fixed by our existent social institutions and which have rendered most of us extra-ordinarily resistant to change. But the changing of belief-systems and attitudes is one of the prime functions of psychiatry. If man, as I believe, *must* alter many of his fundamental ways in order to survive, then psychiatry has an urgent responsibility to apply its insights toward facilitating change.

The change of organizational mythology is indeed the ultimate goal of our work with responsible leaders on a national and international level, but as a first rule we will keep in mind, and apply to ourselves as products of the very institution we are trying to change, Pogo's famous remark: "We have met the enemy and it is us."

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Attend the

FALL HOUSE OF DELEGATES MEETING

Sunday, November 7, 1976—10:00 AM

Holiday Inn, Lawrence

Purpose and Technique

Endometrial Aspiration

WILLIAM J. CAMERON, M.D., *Kansas City, Kansas*

ENDOMETRIAL ASPIRATION refers to the evacuation of uterine contents by a vacuum source, usually utilizing flexible instruments. The process is also known as menstrual regulation, menstrual extraction, or vacuum aspiration (VA). The major indication for its use is the termination of a suspected pregnancy of not more than four weeks post-ovulation.

Flexible instruments, combined with a vacuum source, can be used to evacuate the products of conception safely, quickly, with minimal blood loss, little discomfort, and without anesthesia and preoperative medication. In selected cases, the use of laminaria tents allows the cervix to be dilated passively and slowly, with only mild cramping. With dilation being carried out in this fashion, a flexible cannula, 6 mm in diameter, can be used to evacuate the products of conception of a six-week gestation. This same procedure can be used earlier in gestation even before that period of time at which the diagnosis of pregnancy can be made, either by immunologic testing or by physical examination.

As the procedure is performed in the out-patient department of the University of Kansas Medical Center, its purpose is to alleviate the anxiety of the patient who may be pregnant and does not wish to be.

A protocol was developed defining such a patient as one who is not more than 14 days past her expected menstrual period, and in whom diagnosis of pregnancy cannot be made, palpable enlargement of the uterus not yet having occurred. Using these criteria, a rather substantial percentage of patients who receive endometrial aspiration are not pregnant (approximately 40% of those who are fewer than 7 days past their expected menstrual period). It could, therefore, be argued that when the procedure is performed on a patient who is not pregnant, it represents unnecessary surgery. However, one must balance the risk of the procedure (minimal) against the danger of waiting until pregnancy becomes obvious, at which time it is too late for endometrial aspiration, and the patient presumably becomes a candidate for abortion, with its attendant higher complication rate and greater expenditure of time, money, and facilities. It would be logical and desirable, therefore, in many instances, to proceed with endometrial aspiration even when pregnancy is doubtful. With this philosophy, one may perform endometrial aspiration on a patient who desires to undergo the procedure as a type of "anti-pregnancy insurance" measure.

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This paper concerns the patient selection process, techniques, and results involved in the performance of some 500 endometrial aspirations performed in the out-patient clinics of KUMC.

Indications

The principal indications for the procedure are, as mentioned, a patient whose menstrual period is delayed and who may be pregnant. Other, less frequent indications, are: endometrial biopsy (less discomfort than with a curette), post-menopausal bleeding, and hyper- and polymenorrhea.

Contraindications include acute pelvic inflammatory disease, invasive carcinoma of the cervix, leiomyomata distorting the uterus so that estimation of pregnancy cannot be made, and obesity to the extent that the corpus cannot be well defined.

Materials

The materials necessary for performing endometrial aspiration are:

Speculum;
Tenaculum, either sharp-toothed or atraumatic for cervical fixation and counter-traction;
Ring forceps with cotton ball and antiseptic solution;
One 4-mm flexible, atraumatic cannula of the Karman-type;
One 12-cc syringe;
One 20-guage spinal needle;
One vial of 1% xylocaine;
Vacuum source.

Several types of vacuum sources are available: electric motors, foot-operated pumps, and suction devices operating from water faucets. One of the simplest and most effective devices is a plastic syringe with a locking de-

vice *(Figure 1),* which allows the plunger to be fixed into the position of nearly full withdrawal. This will create a negative pressure exceeding 65 cm mercury. These are inexpensive, disposable, and are made to fit either the 4-, 5-, or 6-mm cannulas. The 4-mm cannula is satisfactory for nearly all patients if the criteria for patient selection are rigidly followed. If the physician has underestimated the uterine size and the pregnancy is more advanced than expected, it may be necessary to graduate to a larger cannula for evacuation of the products of conception.



Figure 1. A plastic syringe with a locking device.

Technique

The patient is placed in the dorsal lithotomy position, and the cervix is inspected. While a bimanual examination is done, it should be noted by the operator whether the uterus is discernably enlarged. One may feel that it is slightly softened. The physician may now elect to place a small laminaria tent in the cervix if the patient is young, nulliparous, and the cervical os seems to be extremely small and unyielding. In most patients, this is unnecessary. If laminaria is used, a wet surgical sponge should be placed against it to hold it in position and to serve as a fluid source for the laminaria to imbibe to allow for rapid expansion. One hour later, a 4-5-mm cannula can enter the cervical canal.

The speculum is reintroduced; the cervix grasped with a tenaculum, and elevated slightly. Approximately 6 cc of 1 per cent xylocaine are injected submucosally at 4 and 8 o'clock. This step is not necessary in all cases, especially in multiparous patients. However, utilizing paracervical or uterosacral block does minimize the discomfort of the procedure which, although rarely severe, can be annoying. One should wait approximately five minutes for the anesthetic to become effective. An alternative to this type of anesthetic is to inject 2 cc of xylocaine directly into the cervical stroma immediately adjacent to the external os. The cannula can then slide up the cervical canal with a minimum of pain. No waiting is needed with this type of anesthetic, as it becomes effective immediately. The cervix is wiped with the antiseptic solution and a 4-mm cannula is inserted until resistance is felt, indicating that the tip has reached the uterine fundus. *There is no "sounding" of the uterus with rigid probes—the cannula serves as the uterine sound.*

The vacuum source—in our case the locking syringe—is attached to the cannula and a vacuum is established. Almost immediately, material will be seen entering the cannula. With short, piston-like strokes, rotating the cannula through a 180° arc, the uterine contents are evacuated. Here, the most critical part of the procedure is reached. The operator must continue his vacuum curettage until he can feel the characteristic gritty sensation of myometrium. Only when this "uterine cry" is elicited in all areas of the uterus, can one be satisfied that the endometrium has been removed and with it, totally, the products of conception. This requires about two minutes to accomplish.

After the 4-mm cannula is worked back and forth through the cervix several times, the cervical canal is dilated sufficiently to allow a 5-mm cannula to be used—this in turn serving as a dilator to the 6-mm diameter. This is ordinarily unnecessary but can be used if misdiagnosis has occurred and the patient is more than four weeks post-conception.

If, at the conclusion of the aspiration, more than 7 cc of tissue are in the barrel of the syringe, the patient was almost certainly pregnant; if there are fewer than 4 cc, she almost certainly was not. If the physician has underestimated the length of gestation, there are likely to be more than 20 cc of material removed. In this case, it is necessary to disengage the vacuum syringe, empty it, and reestablish the vacuum. Caution: The syringe *must* be removed before depressing the plunger, as air embolism is a theoretical possibility. With a vacuum pump, this is not a problem.

The patient is advised to remain supine for a few minutes, then is released to full activity. She is advised that she can expect a menstrual period in from four to six weeks, that the spotting she will have will persist for a very few days and should be no more than a menstrual period.

Pathology

Histologic examination of the material aspirated is a controversial topic. In the interest of economy, we have elected not to examine the tissue removed. This violation of a rather traditional concept was accepted only after long deliberation. Histologic examination of the aspirates from the first group of patients treated revealed the expected: proliferative and secretory endometrium, Arias-Stella change, decidual reaction, and trophoblast.

By not submitting the tissue to the pathologist, we are unable to precisely confirm the presence or absence of a pregnancy. In many cases, this is comforting to the patient who really does not wish this information. This

lack of certainty permits this procedure to be acceptable to many who could not endure the thought of an abortion.

Our major concern in omitting histologic examination is overlooking molar degeneration and trophoblastic disease in removed and discarded tissue. It remains to be proven whether or not trophoblastic disease occurs this early in gestation, within four weeks post-conception. This information should be forthcoming from such areas as Hawaii, where this procedure is being performed and the tissue examined microscopically. Since the incidence of trophoblastic disease in Hawaii is approximately 1 in 400 pregnancies, one would expect to see at least 1 case in the first 2,000 aspirations. If no cases are found, it might be assumed that molar degeneration occurs only later in gestation. Until such evidence is available, we attempt to alleviate the possibility of overlooked trophoblastic disease by very forcefully suggesting that the patient have a pregnancy test performed four to six weeks after the aspiration. This has a two fold purpose: (1) to insure against ignored trophoblastic disease; and (2) to discover the patient who represents an aspiration failure and has retained products of conception. The incidence of the latter should be less than one per cent if the aspiration is carried out in an aggressive fashion. If the pregnancy test at four to six weeks is positive, the patient is urged to see her physician or return to our clinic at once.

In our 500 cases to date, there were 8 patients who developed post-aspiration endometritis. Followup was not complete on all patients since many were from other areas. Retained products of conception were found in each of these infected patients. Treatment consisted of antibiotics and re-curettage. No serious infections occurred. One "re-do" phenomenon has been encountered, just as can occasionally be seen after therapeutic abortion. Such a patient characteristically suffers severe cramping, weakness, dizziness, and faintness. She has an acute hematometra behind a closed cervix. Re-aspiration, using a vacuum pump because of the volume of material, will cure the patient. Uterine perforation has not occurred in our series.

Conclusion

Firm criteria of amenorrhea of no more than 14 days past the first expected menstrual period, and a uterus that is not palpably enlarged were used to limit the patient population in this study. The Karman cannula was employed (generally 4 mm diameter), and a specifically designed vacuum syringe was used as a vacuum source. The morbidity rate was approximately one per cent, usually consisting of low grade endometritis with retained products of conception. The "re-do phenomenon" was observed once, but no major complications occurred. Perforation of the uterus was not encountered.

Widespread, increased use of endometrial aspiration will materially reduce the number of voluntary interruptions of pregnancies that are now being carried out in this area and world-wide. It is safe, easy, inexpensive, quick, induces minimal pain, and can be done with a minimum of training.

There is no reason why this procedure cannot be performed in the office of any physician capable of practicing medicine, since it is a technique that is easily learned and quickly mastered.

In fact, we envision the procedure being done by nurse practitioners and other clinically-oriented paramedical personnel.

Woman's Auxiliary

(Continued from page 224)

Dee Cauble of Wichita, seeks your unused drug samples, old eye glasses, commemorative stamps, and motel soaps for her many projects, so please ask your office assistants to save these items. Collection centers are located in Protection, Salina, Quinter, Pittsburg, and Troy, and these ladies will send or take your contributions to Wichita. You may call your county medical Auxiliary president, and I am certain she will deliver your supplies to Dee. Also, medical journals and family magazines can be mailed overseas to physicians and their families through the International Book Project. A $1.00 check mailed to International Book Project, Inc., 17 Mentelle Park, Lexington, Kentucky 40502, will give you a one year subscription to an interesting news bulletin, and a book with addresses and information on preparation of books and magazines for overseas mailing will be sent to you upon request.

I shall be watching the mailbox for AMA-ERF contributions. My address is 1320 Cleveland, Great Bend, Kansas 67530. Please remember that any amount will be appreciated, and all contributions are tax deductible.

Sincerely,
Jean Cavanaugh
President,
Woman's Auxiliary to the
Kansas Medical Society

Metastatic Lung Tumors

Renal Cell Carcinoma Presenting as Mediastinal Mass

PRASHANT KUMAR MUKERJEE, M.D.,* K. K. SARAVANA RAJAN, M.D.,†
and* KYE Y. KIM, M.D.,‡ *Leavenworth

MEDIASTINAL MASSES are not uncommon, yet the differential diagnosis is almost always difficult. The diagnosis of a mediastinal lesion is far from an accurate science. If one were to play the percentages and follow the list of various conditions that are found in the mediastinum, one may reach a reasonable conclusion.[1] But mediastinal masses may present no distinguishing roentgenographic features, and diagnosis must await histologic examination of tissue removed by mediastinoscopy or thoracotomy.

A case of a superior mediastinal mass, discovered on a routine chest roentgenogram and found to have renal cell carcinoma with widespread metastasis, is presented.

Case Report

A 43-year-old welder was referred because of an abnormal chest roentgenogram. An earlier chest roentgenogram, taken 1½ year ago, produced negative results. Upon admission, the patient presented with low grade fever, discomfort in the left side of the chest, and a nonproductive cough of about one week's duration. He denied any history of weight loss. The patient was in apparent good health prior to this episode, and was holding a full time job. He admitted to heavy smoking and heavy drinking. There was no history of chest trauma, hypertension, or syphilis. Physical examination revealed the patient to be well developed and in no acute distress. His blood pressure was 110/86 mm Hg; pulse rate, 84 beats per minute; temperature, 100F (37.8C), respiration, 22 per minute. Examination of the patient's chest revealed expiratory wheezes only on forced expiration. The liver was slightly enlarged, and was firm and non-tender. No abdominal mass could be palpated. He was also found to have inguinal hernia on the right side. There was no evidence of lymphadenopathy. The rest of the physical examination results were within normal limits. Routine laboratory results, including serology, were within normal limits. Results of numerous urine and blood cultures were negative. Chest roentgenogram showed a large, well-defined, homogenous, rounded mass projecting to the left of the upper mediastinum, completely obliterating the aortic knob. In lateral projection and tomograms the mass seemed to surround the trachea without any significant narrowing from extrinsic pressure. No calcification was noted in the mass *(Figure 1)*. Fluoroscopic examination of the chest revealed the mass to be fixed to the mediastinum and was non-pulsatile. A barium swallow revealed the esophagus displaced to the right, with narrowing of the lumen at the level of the tumor mass in the mediastinum. Liver biopsy showed mild fatty infiltration. An aortogram ruled out the possibility of an aortic aneurysm. Initial intravenous pyelogram (IVP) was reported as negative. Bronchoscopy revealed carina to be fixed, and slight convexity of the medial wall of the left, main stem bronchus in its proximal part, but the mucosa was completely normal. Bronchial washings and numerous sputa were negative for malignant cells. A presumptive diagnosis of probable lymphoma of the superior mediastinum was made. Thoracotomy, however, revealed a large tumor mass in the superior mediastinum, adjacent to the medial aspect of the left-upper lobe, and in addition there were multiple metastatic nodules over the parietal and visceral pleura. One of the metastatic nodules from the pleura was biopsied. The initial histologic diagnosis was reported as metastatic carcinoma of undifferentiated, large cell type. But subsequent review of the biopsy material revealed it to be metastatic renal cell carcinoma.

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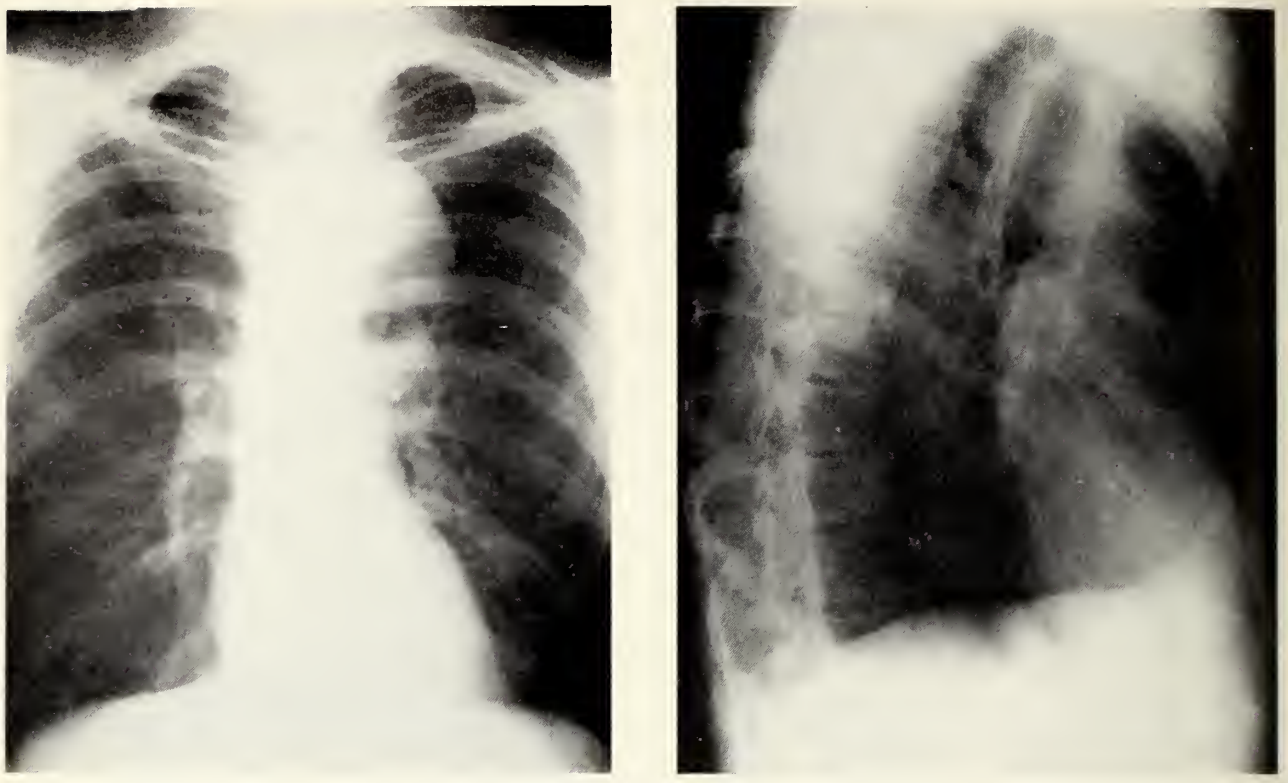


Figure 1. Antero-posterior and lateral chest roentgenogram demonstrating the mediastinal mass.

After the patient had recovered from thoracotomy, a repeat IVP and nephrotomogram confirmed the presence of a mass in the upper pole of the left kidney, which resembled renal cell carcinoma. The patient was treated with palliative radiation and chemotherapy for his metastatic renal cell carcinoma with some initial subjective improvement, and was discharged.

Six months later, the patient was hospitalized again because of loss of weight, anorexia, nausea, vomiting, generalized weakness, pain in the left side of the chest, and dyspnea. He had a large, firm, and non-tender mass in the left-upper quadrant of the abdomen. Examination of the chest revealed dullness and diminished breath sounds on the right side. Chest roentgenogram showed almost complete opacification of the left hemithorax. The patient's condition deteriorated rapidly, and he expired about one year after his first hospitalization.

Autopsy showed a large tumor rising from the upper pole of the left kidney and extending to the left dome of the diaphragm. There were widespread metastases to the left pleura with hydrothorax, the left dome of the diaphragm, pancreas, splenic capsule, left adrenal, and osteolytic lesions in the lumbar vertebrae and lymph nodes, including regional lymph nodes, left deep cervical, perihilar, and mediastinal lymph nodes. The lung parenchyma was free of metastatic disease. The tumor mass in the left kidney was confirmed to be renal cell carcinoma and was histologically identical to the metastatic nodule removed from the left pleura.

Discussion

Renal cell carcinoma imitates many trivial and serious illnesses and has justifiably been referred to as "the great imitator." Subtle symptoms, and misleading physical and laboratory findings, challenge the clinician by mimicking other disorders. In 35-45 per cent of patients with renal cell carcinoma, no presenting symptoms are directly related to the primary tumor.[2]

Approximately one third of the patients already have metastasis when the diagnosis of the primary tumor is made.[3] The lungs are involved in about half of all patients with metastasis. They usually consist of multiple nodules of varying sizes in both lung fields. Less commonly, pulmonary metastasis may include solitary pulmonary nodule, intrabronchial metastasis, and tumor emboli.[2] Recently, bilateral hilar adenopathy simulating sarcoidosis was reported as a presenting manifestation of renal cell carcinoma.[4]

Lymphatic spread to the regional lymph nodes, lateral aortic nodes, and also the supraclavicular nodes through the thoracic duct is well known. Our patient obviously had a lymphatic spread to the mediastinal lymph nodes, which assumed unusual proportions. We feel that this report is important in pointing out a previously unrecog-

nized metastatic pattern of renal cell carcinoma to mediastinum. We also suggest that lymphatic spread to mediastinum from renal cell carcinoma be included in the differential diagnosis of mediastinal mass.

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Problems in Pathogenesis

(Continued from page 235)

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Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

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All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

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Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

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Contraceptive Devices

IUD Failures in the First Year

PAUL A. KAELSON, M.D., *Wichita*

THE EFFICACY and side effects of various types of intrauterine devices (IUDs) have been compared in many papers. It is difficult to make a comparison unless the devices are inserted by the same personnel, in the same setting, and at the same time. Physicians differ in skills, and the skill of one physician differs as he gains experience. Patients differ because of educational backgrounds and motivation.

Method and Clinic Setting

The study was done with 1,000 patients of the Wichita-Sedgwick County Health Department Family Planning Clinic. There were 1,052 insertions, some patients having more than one insertion, for a total of 1,275 woman-years of exposure.

The following types of devices were used: Dalkon Shield, 700; Lippes Loop, 224; and Saf-T-Coil, 128.

Tietze's[1] procedure for IUD data analysis was used in the tabulation of results. Some patients were followed for six years, but the majority of the group fell within the first three years. It was felt that the statistics would be more meaningful if the study was limited to the three-year group.

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Results

Table I is the tabulation of results of the three-year group. The patients beyond three years were excluded, as were the 66 who did not return after the initial insertion. The failure and success ratio was much the same as has been reported by others.[2-5]

Table II is the tabulation of the failures of the Shield, Loop, and Coil devices. As there was not an equal number of each type, the IUDs were grouped.

The percentage of failures was highest the first year (33%). The second year there was a drop in failures to 25 per cent. This was reduced again the third year, to about 12.5 per cent. It seems that the patient can adjust to the device during the first year. We tried changing types of IUDs for the patient with problems, but this made little difference. Not all women are able to tolerate IUDs; similar problems were noted with the diaphragm when it was being used extensively.

Conclusion

If the patient begins to have problems with an IUD soon after the insertion, some other method of contraception should be considered.

TABLE I

Time Period	*1 Month to 6 Months*			*6 Months to 1 Year*			*1½ Years*			*2 Years*			*2½ Years*			*3 Years*		
TYPE OF IUD	1	2	3*	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Successful use	105	5	12	153	11	10	58	14	10	51	16	3		1		11	18	9
Pregnancies	5			15		4					1				1			
Expulsion	21	7	11	9	7	3	1	3	1	1	2		20	15	2		2	1
Removed for:																		
Bleeding	23	6	5	34	9	3	10	2	3	3	4	1		1	1		1	2
Pain	9	1		13	1	2	6	1		6	2	2			1			
P.I.D.	3			5	2		4			4	2					1		1
Cone	3			2	3	1	1	3	1		2	1						
Pregnancy desired	9	1		14			14	2		1	4		1				1	
Vasectomy	3			5	2		2	1			1					1		
Choice	5	2		9	5	2	2	3		2	1		1					
Lost	55	4	7															

* 1. Dalkon Shield. 2. Lippes Loop. 3. Saf-T-Coil.

TABLE II

Period of Time	All IUDs	Success	Percentage of Failures
Under 6 months	218	148	32%
6 months to 1 year	324	217	33%
1½ years	142	111	23%
2 years	111	83	25%
2½ years	45	39	13%
3 years	48	40	12.5%

Acknowledgement

The personnel of the Sedgwick County Health Department assisted in making this voluntary study.

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Clinical Perspective

The Innocent Murmur

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INNOCENT OR FUNCTIONAL murmur detection is a daily occurrence in pediatric practice. Innocent murmurs have been found in up to 77 per cent of term newborns, 10 to 80 per cent of prematures, and in 2 to 100 per cent of children and adults, depending upon age ranges, and the methods and number of auscultations.[1] Overall, murmurs are present in the majority of infants and children.

The cause of innocent murmurs is quite complex. The idea that heart sounds are simply due to valve closure is far from complete, and this accounts for only a part of the sounds heard by the observer.[2] Theories of production of murmurs have also been debated.[1]

Clues to what is not an innocent murmur are equally important. The following are not innocent murmurs:[13] any (1) diastolic murmur; (2) true continuous murmur; (3) systolic murmur of a grade 4/6 or greater; (4) systolic murmur of any intensity associated with other abnormalities[14] (a diastolic murmur and fixed, split second heart sound in atrial septal defect of the secundum variety is the typical example); and (5) systolic murmur of any intensity associated with true cardiac symptoms.

Innocent murmurs, despite many more detailed classifications, may simply be divided into four common types: (1) Still's murmur; (2) Pulmonic ejection murmur; (3) venous hum; and (4) carotid bruit.

Still's Murmur

The Still's murmur was described by Dr. George Frederic Still[3] as a "physiologic bruit, halfway between the left margin of the sternum and the vertical nipple line," with a "twanging sound." This definition still applies.[4, 5] It is a common murmur in children; its location is lateral to the left-lower sternal border, but always medial to the apex. Although it may be transmitted, it is usually localized. It occupies the first one-half to two-thirds of systole, is a grade 1-3/6, and its characteristic sound is described as squeaky, vibratory, musical, groaning, and like a twanging string. Exercise may increase or decrease its intensity. The cause is unclear, but it has been related to vibration of the cardiac wall or adjacent tissues, heart muscle, or right ventricular outflow tract.[5-7] This murmur is so characteristic that its quality is easily remembered. On occasion, it must be differentiated from mitral regurgitation, which is usually pansystolic and radiates to the axilla, and the murmur of a small ventricular septal defect, which is usually pansystolic or associated with a thrill, and subaortic stenosis which is usually of a different quality and associated with another abnormality.

Pulmonic Ejection Murmur

This murmur earns its name from its location and its resemblance to pulmonic stenosis. It is located at the left-upper sternal border, but may be transmitted along the left-lower sternal border. It is a soft systolic ejection (crescendo-decrescendo) murmur, peaking in early systole, of grade 1-3/6 intensity. It is not associated with other abnormalities, and it increases with exercise. Its cause may be vibrations of the wall of the pulmonary artery, or turbulent flow from right ventricular ejection.[8] This, the most common of innocent murmurs, may be the most difficult to differentiate from murmurs that are pathologic. The clues to innocence lie not only in its softness, but in the absence of associated auscultatory abnormalities. The murmur is softer and less harsh than that of valvar pulmonic stenosis, and is not associated with electrocardiographic or x-ray abnormalities. It is especially important that, unlike the murmur of mild valvar pulmonic stenosis, the innocent pulmonic murmur is not associated with a systolic ejection click following shortly after the first heart sound.

An atrial septal defect is the other major diagnostic concern. In this lesion, the blood crosses from the left atrium to the right atrium, enters the right ventricle, and exits the pulmonary artery. The excess blood causes a relative pulmonic stenosis, and hence, a usually soft pulmonary ejection murmur. However, the fixed, split second sound, the third sound, and the diastolic rumble characteristic of the atrial defect are absent when the murmur is functional.

Venous Hum

This continuous murmur is heard in the supraclavicular area bilaterally, although it may be louder in the

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right side. It is heard in both systole and diastole, but is often louder in diastole. It is not associated with other abnormalities and is not transmitted below the clavicle. It increases with respiration, sitting, and with slightly turning the head, and disappears with occlusion of the venous branches in the neck by reclining and turning the neck as far as possible in the direction of the murmur. It is probably due to turbulence in the supracardiac venous system—the internal jugular or external jugular.[4, 5, 9, 10] The major diagnostic problem is the exclusion of a patent ductus arteriosus, which produces a continuous murmur. The murmur of a ductus is usually left-sided, and is not obliterated by the maneuvers noted above.

Carotid Bruit

A less frequently heard murmur is the supraclavicular arterial bruit, or carotid bruit.[11] This is a systolic ejection murmur heard in the neck in children. Its innocence is found by auscultation of the chest, where murmurs such as those of aortic stenosis, radiated up the carotids, are absent. Its cause is at the aortic arch, and is related to turbulence of blood flowing across the great arteries.

Except for murmurs heard in neonates, the pediatrician can usually decide on the innocence of these murmurs. Due to their frequency, only murmurs of questionable pathology are evaluated with a chest x-ray and electrocardiogram. Furthermore, uncertainty should prompt referral to a pediatric cardiologist. It is not usually necessary to announce the presence of an innocent murmur. When an explanation is made, caution must be exercised due to parental misconceptions and unnecessary concern.[12]

Awareness of the patterns of innocent murmurs allows the screening of pediatric patients for heart disease, and facilitates confident identification of innocent murmurs. It also confirms their insignificance to parents.

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POSTGRADUATE EDUCATION FOR PEDIATRICIANS AND OBSTETRICIANS

The Maternal and Child Health Program of the University of California School of Public Health at Berkeley announces postgraduate programs for pediatricians and obstetricians in the field of Maternal and Child Health and Family Planning. Program areas available at the present time include 9-month programs in Maternal and Child Health, in the Health of the School-Age Children and Youth, and Day Care and the Preschool Child. The 21-month programs in Care of Handicapped Children and Comprehensive Health Care, and a 33-month program in Perinatology are also available. These programs all lead to the degree of Master of Public Health. Tax-exempt fellowship support is available.

Applications are now being accepted for the group entering September 1977. For information, write to Helen M. Wallace, M.D., School of Public Health, University of California, Berkeley, CA 94720.

Emergency Medical Service

Its Vocabulary

(Editor's Note: This is the second of a continuing series of articles to acquaint the busy practicing physician in Kansas with the new emerging field of Emergency Medical Services Systems, prepared by Norman E. McSwain, Jr., M.D., Director, Emergency Medical Training, KUMC.)

Emergency Medical Services Systems (EMSS): Any system of delivery of patient care to an emergency patient with any of seven categories of illness, so that all 15 aspects of the system are identified and addressed. The matrix in *Figure 1* has been designed to fully identify this system.

Categorization: System used to identify the resources and capabilities of the hospital and its entire staff to receive, evaluate, and treat correctly and expediently emergency patients (or stabilize and refer to appropriate facilities).

Communication: A system of dispatch and control of ambulance and emergency vehicles. Radio and telemetry channels transmit to the hospital for immediate interchange of essential information on patient care. This system must have a dispatch center and ready public access to this system.

Patient Care Categories: There are seven categories of patient care which must be addressed in development of the EMS system. These include cardiac, burn, trauma, high risk infant, poison-drug overdose, alcohol detoxification, psychiatric emergencies, and other medical and surgical problems.

EMS Council: A formally established and responsible entity representing diverse provider groups and consumers of emergency medical services to review, plan, and evaluate the entire system.

Emergency Medical Technicians/Ambulance (EMT/A): Persons trained in emergency medical care in accordance with standards of the State of Kansas and the Department of Transportation.

Emergency Mobile Intensive Care Technicians (EMIC): Persons trained in advance emergency medical care capable of relaying to medical personnel vital information regarding the patient's condition; then carry out directions as to medications and procedures while working at a remote site from the physician but connected by radio. Medical directions and advice deriving from a designated medical facility staffed by appropriate personnel to provide this radio or telephoned communication for on-site or in-transit life support.

Address reprint requests to Dr. McSwain.

There are 15 components to the EMS system which must be addressed as in the matrix in *Figure 1.* In providing for the patient care in each of the various types of emergency classes, each of the 15 components should be addressed to ensure that the system is entirely complete. These components are defined as follows.

1. Manpower—Sufficient number of properly trained personnel to provide emergency medical service 24 hours a day.

2. Training—Appropriately trained individuals at the EMT/A or EMIC level, with adequate continuing education to provide for improvement of skills and knowledge.

3. Communications—Personnel, facilities, and equipment of a centralized communications system, so that the general public has ready access through the 911, or a well known seven-digit number, to immediate well-planned, definitive emergency care.

4. Transportation—Adequate number of necessary ground, air, or water vehicles to deliver appropriately trained personnel to the scene; transportation of the emergency patient to the appropriate facility; and appropriate inter-facility transfer.

5. Facilities—Adequate numbers of easily accessible emergency services facilities providing continuous (24 hours, 7 days a week) care for the patients.

6. Critical Care Unit—Specialized medical care unit of all categories to provide definitive in-depth intensive patient care.

7. Public Safety Agencies—Utilization of all available public safety agencies and integrated systems to provide both with standard disaster care.

8. Consumer Participation—Persons residing in the area with no professional training or experience but who receive the services should be expected to participate in policy making decisions.

9. Accessibility to Care—Services must be provided without prior inquiry as to the ability of the patient to pay. Service should be accessible to the patient, and all individuals in the community should understand how to gain access to the system.

10. Transfer of Patients—Transfer to facilities and programs for definitive followup or rehabilatory care.

11. Standardized Record-Keeping—A system of stan-

dardized record-keeping for all EMS services, so that information from the patient's initial entry into the system until discharge is appropriately recorded. Must include the pre-hospital phase, as well as the patient's emergency department record. This should include patient identification information, access information, timing of services, condition at arrival at the scene and arrival at the emergency department, patient treatment at the scene and during transport, diagnostic treatment, and services in the emergency department and hospital critical care unit, disposition of the patient, and condition of the patient upon discharge.

12. Information and Education—Programs of public education and information regarding the system, how to assess it and how to use it properly, with appropriate information as to medical self-help and first aid, evaluation of the system by an impartial outside examiner, to physically review the methods and mechanism, and suggest appropriate improvements.

13. Disaster—Appropriate plans for patient care in disaster situations, mutual aid agreements, and division of emergency medical services on a reciprocal basis with adjacent and surrounding similar systems.

14. Mutual Aid—Written agreements between adjacent cities to respond to EMS needs in event of a disaster overload of the system.

15. Evaluation—Outside expert evaluation of the system to determine if it is meeting the needs of patient care.

EMS COMPONENTS & PATIENT CARE CATEGORIES

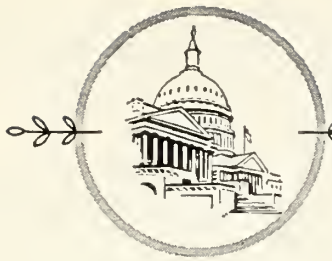
EMS System Components	Trauma	Burn Patient	Acute Cardiac	High Risk Infant	Poison & Drug Overdose	Alcohol Detoxification	Psychiatric Emergencies
Manpower							
Training							
Communications							
Transportation							
Facilities							
Critical Care Units							
Public Safety Agencies							
Consumer Participation							
Accessibility to Care							
Transfer of Patients							
Standard Medical Record Keeping							
Consumer Information and Education							
Evaluation							
Disaster							
Mutual Aid							

Figure 1

INTERNATIONAL DOCTORS AA

International Doctors in Alcoholics Anonymous is a non-dues paying organization of physicians and dentists who get together at least yearly to help each other obtain and maintain their sobriety and freedom from drugs.

The next annual convention will be held at the new Los Angeles Marriott Hotel, on August 5-8, 1976. Inquirers and newcomers are welcome. For information, please write IDAA Secretary, 1950 Volney, Youngstown, OH 44511.



Socio-
ECONOMICS

Health Care Delivery—Cooperation and Coordination: University, Community, and Government

GEORGE E. BURKET, JR., M.D., *Kansas City, Kansas*

EVIDENCE that health care delivery problems have been present in Kansas for many years is exemplified by the Murphy plan which gained national attention in the 1950s. Intended to correct or at least assist in alleviating rural health care deficiencies which were becoming evident, Dr. Murphy's plan stimulated the construction of small hospitals in rural communities.

This was a laudable endeavor, but there were definite factors which prevented success. First of all, the hospitals were small models of city hospitals rather than institutions tailored to the functional needs of rural communities. Secondly, the architects of the plan forgot to emphasize the necessity of medical education training physicians with knowledge and skills capable of practicing medicine and surgery in these hospitals and communities. And third, the consumer was intensely enthralled with the tremendous developments in tertiary medical care and did not notice, until recently, that primary and secondary health care, which is so close to everyday living, was rapidly disappearing. Even though warnings have been sounded for at least 25 years, only recently has this deficiency become severe enough to warrant a concerted effort by the educator, provider and consumer.

But the current efforts to meet a serious need are hindered by lack of coordination, by disagreement, by sudden inhibiting anxieties, by suspicion, and at times by total indifference. Federal government programs are, in some instances, administered by individuals never intimately connected with actual health care delivery. Certain influential medical education institutions, which have consistently denied such a thing as quality primary care, have suddenly become authorities in this area of medicine. Well intentioned individuals and organizations seem to be frantically proposing—and attempting to finance and institute—new patterns of practice in the hope that maybe they will be successful. A natural suspicion on the part of the practicing physician, that government assistance means inevitable control and inferior health care, further confuses attempts toward health care delivery solutions.

A rather astounding development in the past two to three years has been the seeming willingness of some of our large, conservative philanthropic foundations to commit huge sums of monies to programs conceived by individuals with absolutely no prior experience in health care delivery.

It seems evident at this point that it may be some time before there arrives in the United States a full realization that the answer lies in complete and honest cooperation and understanding on the part of practicing physicians and health care professionals, who know how to deliver health care, and medical education, which has the capacity and ability to educate and train. To do this, our health science schools must be willing to depart from the almost exclusive pattern of educating for tertiary care and commit themselves to the education of primary and secondary physicians as well. Schools must also go outside their walls and involve in medical education private practicing physicians and local communities. At the same time certain numbers of qualified private physicians must

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give the time to teach and accept university influence. Without this influence medical education might well return to a pre-Flexner era.

At present, Kansas has the potential for effectively meeting its health care delivery crisis but, first, there must be coordination, cooperation, dissolution of suspicion, and proper expenditure of resources.

In determining needs, a good starting point has already been made by the study and report of the Walker Committee, conducted by the University of Kansas Health Science Center. Much of the data used by this committee was compiled by the Kansas Regional Medical Program. When first presented, there was a great deal of misunderstanding concerning the purpose of this study, the nature of the report, and the possible methods of implementation. The report is actually an excellent document and is intended only to be of assistance to health care personnel in voluntarily creating a practical health care system in Kansas. There was never any devious intent on the part of the authors or the institution to make it a blue-print for social medicine in Kansas. It is, rather, a suggested reticulum created by available data which may be filled in voluntarily by adequate numbers of properly trained individuals.

It appears evident from this report, as one looks at the vacancies in the reticulum, that the greatest need is for increased numbers of primary care physicians. Supporting allied health care personnel must, of course, follow or accompany this increase. There should be no argument as to whether these primary physicians should be family physicians, general internists, general pediatricians, general surgeons, or general obstetrician-gynecologists. Actually, at this point in time, we need them all and each will find his own place according to his actual training. The important thing is that the education and training be of universally agreed upon quality and that we do not clutter their practice environment with undue restrictions and suspicions.

The University of Kansas Health Science Center, including the Wichita Branch, is already beginning to extend beyond its walls with community rotations of residents and students in family medicine, pediatrics, surgery, and internal medicine. One can be certain these will be gradually enlarged. Adequate teaching manpower, proper facilities, and funding are always problems and take time.

The education and training of physicians in family medicine is well under way in Kansas, but the real effect has not yet been felt. The full potential has not been reached, and the programs are not as yet complete.

Prior to the creation of the official "Essentials for the Training Programs for the Family Physician" by the Council on Medical Education of the American Medical Association and the American Academy of Family Physicians, a residency was established at Wesley Medical Center and Hospital in Wichita. Dr. Gayle Stephens based the curriculum for this program on the Willard Report, "Meeting the Challenge of Family Practice." After the Essentials for training were complete and accepted by the American Board of Medical Specialties and the American Medical Association in 1969, very few changes were necessary in the Wesley Hospital residency to comply with these Essentials. It was one of the first 19 programs in the United States approved by the new Residency Review Committee for Family Practice when it was implemented in 1969.

Soon to follow was the family practice residency at St. Joseph's Hospital and Rehabilitation Center in Wichita. Supported by genuine enthusiasm on the part of the administration for the hospital, who observed the urgent need for primary care physicians in Kansas, Dr. Lew Purinton, medical education director and an internist, set about establishing a residency which was approved in 1971. This hospital indicated its commitment and support by constructing, adjacent to the hospital, a new Family Practice Center building.

The residency program within the newly established Department of Family Practice at the University of Kansas School of Medicine came in 1972. One year previously, Dr. William Rieke, then Executive Vice-Chancellor, had, at the recommendation of an official search committee, appointed Dr. Jack Walker to the chairmanship of this department. The foundation of the department and the residency was a landmark in Kansas because, for the first time in many years, family practice and primary care became readily visible to the undergraduate student at the medical school.

All three of these programs have enjoyed unqualified success. As of July 1976, there will be full complements of residents in training at all three institutions. Each program differs enough in curriculum content to offer a young physician broad choices when he/she comes to Kansas, or remains in Kansas, for training. This flexibility is most certainly to be desired and should not change. Never should one program become a blue print of the other; the quality of each is paramount.

Two of the programs are based in community hospitals with University affiliation and one is based in the University proper. There are arguments pro and con as to which situation is best. All of those who would debate this subject are both right and wrong, for neither program is best. Both have their good points and their less advantageous characteristics which will not be discussed here, but their existence side by side is as it should be.

On July 1, 1976, the fourth residency in Kansas will

have its official beginning at St. Francis Hospital in Wichita. Although it was approved by the Residency Review Committee in 1974, timing has been such that it has not had the opportunity to accept residents through the matching program until this year. This will bring the total positions in Kansas to approximately 84. Twenty-eight of these will be in their third year and finishing each July. Anticipated expansion will soon bring the latter figure to 32.

From the foregoing, it seems obvious that family practice training is thriving in Kansas since a beginning only six years ago. In a few years, there should be available to Kansas adequate numbers of primary care physicians. There are, however, important factors missing that may well negate the success that seems so near. There is lack of coordination and cooperation in the total effort. If not corrected, these are certain to diminish effectiveness.

Superbly trained family physicians may practice anywhere in the United States—in small towns and large cities—the need is universal. An extra effort is needed if these practitioners are to remain in Kansas.

Cooperation and coordination stressed here are important for several reasons. First, is an economic consideration. There is, and will be, only limited money that can be expended on family practice education and distribution. Secondly, introduction of the resident to private practice, particularly in rural areas, must be done with innovation and purpose; it should be exceedingly well planned. Third, a very carefully constituted system of community recruitment must be developed which is new and progressive. And fourth, communities must have assistance in creating a satisfactory social, cultural, recreational, and economic environment that will appeal to the young professional and his family.

One must constantly be mindful of the fact that the function of a family practice residency not only requires adequate teaching manpower, but proper funding as well. Although, when well established, the residency does partially support itself, a considerable amount of money is needed from private support, grants, and the state legislature. Family practice is primarily ambulatory based and third-party payers, through which so many of our health care dollars flow, generally do not pay for this major portion of health care. Consequently, the consumer of health care does not have the opportunity to contribute to the education of the family physician through his insurance dollar, as is the case with most other specialties. It is, therefore, quite logical and proper that this area be supported by legislative appropriation.

Indeed, the Kansas Legislature has been generous with funding for family practice, and it has been able to do so without undue protest from the taxpayer. It must be realized, however, that there is a limit to such funds, and the monies which are so appropriated must be used efficiently and as productively as possible for the benefit of the state of Kansas. To do this requires proper communication among the various residency training programs. There should not be duplication of certain projects when unnecessary and new programs that require considerable public funding should not be promoted, planned, and embarked upon without the consideration of all. Priorities should be established. We should have learned this from the expensive mistakes of federal programs in health care over the past 30 years. It does seem certain that government funding for family practice will continue for the immediate future if those monies are used wisely and the family practice training program maintains its credibility. This credibility will depend on productivity and quality. Quantity of primary care physicians at the expense of quality will quickly bring rejection by students, will soon be bypassed by the health care consuming public, and the situation will become more desperate than it is today.

The introduction of the family practice resident to private practice, particularly in rural areas, must be well planned and executed properly. It should and must be an enjoyable educational experience and an integral part of the training program. The traditional preceptorship, in which the student observes family practice or general practice for a short while during which time he is supposed to see the practitioner "in action," will not suffice for this purpose. This is not a criticism of the preceptorship. It is something quite different.

The community rotation portion of the residency program should be in the third year and should be for two or three months. Either is approved by the Residency Review Committee and the Liaison Committee for Graduate Medical Education. This rotation should have a curriculum as carefully constructed with predetermined objectives as is the curriculum at the base institution. The practice environment—office, hospital, and community—should be so modern and progressive that the resident learns exactly what he can duplicate in other communities to create a good situation for himself and his family. If necessary, some funding should be diverted to assist in creating these community rotations.

The 32 third-year residents in the Kansas programs would keep eight such outreach teaching centers occupied 8-12 months of the year. When these centers are well established, the undergraduate medical student will soon follow the resident for a part of his education. And as the residents leave their three-year residency, they will be prepared to fill the vacancies in the reticulum of health care delivery described in the Walker Committee report. *(Continued on page 264)*

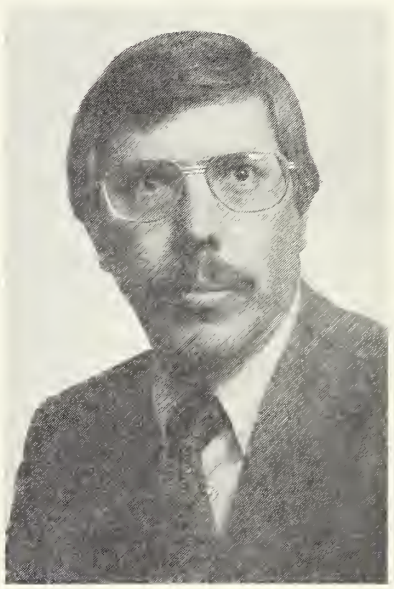
Professional Liability Insurance

Implications of Termination

WAYNE T. STRATTON, J.D., ***Topeka***

(Ed. Note: The opinion here presented is being rendered by Mr. Wayne T. Stratton, General Counsel of the Kansas Medical Society, in accordance with the provisions contained in KMS Resolution No. F75-11.)

The implications of termination of professional liability insurance by a physician are discussed in some detail. Primary consideration is given to the disadvantages involved in such termination.



Wayne T. Stratton, J.D., KMS General Counsel

SOPHISTICATED medical procedures, carrying with them a risk of potential serious injury or death, are much more common at the present time. Society has become more litigious and attorneys who previously tried automobile accident cases now, as a result of nofault automobile insurance, have time to explore other areas of litigation. There is probably little doubt but that the existence of high liability limits is responsible in part for the dramatic increase in malpractice litigation. Collection of judgments has not been a problem in recent years. Attorneys who specialize in this area are not presently interested in long procedures necessary to collect judgments from non-insured physicians. Should a substantial number of physicians elect to go without insurance, it is likely that malpractice litigation would be much less attractive and very likely would decline. The problems faced by individual physicians making this election, however, may vary from minor to chaotic, as set forth in detail below.

The situation present at the time this opinion was requested was much different in that the legislature has now passed Senate Bill No. 646, which establishes what is in effect a state operated insurance fund to pay all malpractice judgments above certain amounts. Although S. B. 646 was enacted to alleviate the availability problem, it will require a practicing physician to maintain a specified amount of malpractice insurance in effect as a condition of rendering professional services in this state.

Thus, this paper will, first, consider the impact of S. B. 646 upon the insurance options available to the practicing physician. It will, then, focus on the disadvantages that practicing without insurance to the extent allowed by state law would have. Finally, it will identify what means, if any, are available to a physician so as to minimize any adverse economic problems that could result from an election not to maintain liability coverage.

Impact and Requirements of S. B. 646

The primary purpose of the new statute is to alleviate the problem of availability of malpractice insurance by establishing a state operated insurance fund. The act applies to all "health care providers," which, of course, includes physicians. Senate Bill No. 646 §1(f) Section 2(a) of the act provides as follows:

> A policy of professional liability insurance approved by the commissioner and issued by an insurer duly authorized to transact business in this state in which the limit of the insurer's liability is not less than One Hundred Thousand Dollars ($100,000) per occurrence, subject to not less than a Three Hundred Thousand Dollar ($300,000) annual aggregate for all claims made during the policy period, shall be maintained in effect by each resident health care provider as a condition to rendering professional service as a health care provider in this state, unless such health care provider is a self-insurer. Such policy shall provide as a minimum coverage for claims made during the term of the policy which were incurred during the

term of such policy or during the prior term of a similar policy.

The effect of the section is to require each practicing physician in Kansas to carry a policy of malpractice insurance in the amount specified.

Under the act, any resident physician who purchases the insurance required under the act will be required to pay a premium surcharge levied by the state commissioner of insurance. The surcharge will be a percentage of the premium for the insurance and may vary from year to year. The funds accumulated through the surcharge will go into a state operated fund that will pay judgments against physicians and other health care providers in excess of the basic coverage now required to practice in this state. The surcharge may vary from year to year but in any event it will not be less than 40 per cent of the annual basic premium for any fiscal year until such time as the fund accumulates the sum of $5,000,000.

Given the provisions of S. B. 646, a question arises as to whether a physician should carry excess insurance beyond that required by the act and, if he does not, what the possible consequences may be.

The original intention of the act was to completely cover any liability for malpractice by a combination of private insurance and a state operated fund. The act does in fact provide that the fund shall be liable to pay "any amount due from a judgment or settlement which is in excess of the basic coverage liability of all liable resident health care providers or resident self-insurers for any such injury or death arising out of the rendering of or the failure to render professional services within or without this state." (§3(b)(1)).

Unfortunately, there is no provision which specifically exempts the health care provider from liability for payment of a judgment. Left unanswered are questions which might arise if:

a) The act is declared unconstitutional;

b) The fund is insufficient to pay all judgments;

c) A judgment creditor does not agree to accept installment payments as set forth in the act, and a court does not order payments in such a manner.

While constitutional issues might be raised, these have been considered as the legislation progressed, and it would not appear any constitutional defects should invalidate the protection provided by the act. The fund has been established based upon actuarial projections. Furthermore, the director of accounting is authorized to transfer funds from the state general fund if the need for it is certified by the commissioner of insurance.

The question might be raised as to whether or not S. B. 646 requires a judgment creditor plaintiff to defer collection of the full amount of the judgment if the same is in excess of $250,000, as the bill speaks in terms of restricting the insurance commissioner from making a distribution in excess of this amount except in annual installments. It would appear likely that any court would, under such circumstances, utilize the provisions of House Bill No. 2724, which permits the court to order payment of judgments in installments.

Considering all of the circumstances, it appears that physicians could feel reasonably comfortable in only carrying the basic limits of insurance.

"Going Bare" May Result in Being Stripped Bare

I. Problems and Costs in Finding a Lawyer and Defending a Case

One of the first things that an uninsured physician should do upon receipt of a summons in a malpractice action is to contact a lawyer. Therein lies one of the disadvantages and one of the hidden costs of "going bare." Insurance company lawyers are nearly always experienced in defending medical malpractice actions and are well versed in medical malpractice law. A physician who carries professional liability insurance has assurance not only that any liability he may have will be paid for by the insurance company, but also that the lawyer who handles a suit against him will be an experienced defense lawyer.

A. *Cost of Hiring a Lawyer and Defending a Suit*

Because almost all medical malpractice actions are defended by insurance companies, most physicians are no doubt unaware of what malpractice defense actually costs. Because of the vastly differing complexities of malpractice cases, an estimation of the total attorney's fee that a physician should expect to pay is most difficult. Nevertheless, even a simple malpractice case involves a great number of hours for the lawyer spent in office conferences, taking the statements and depositions of witnesses, talking with the opposing counsel, and researching the law before the case ever reaches trial. Thus, an uninsured physician can expect to pay several thousand dollars in attorney's fees even for the defense of a relatively simple case. Furthermore, the fee will have to be paid regardless of whether the physician wins, loses, or settles the case.

In addition, the physician should be aware that the cost of defending a medical malpractice action includes much more than the attorney's fee. To adequately prepare the defense, the physician's lawyer will be required to take the depositions—that is, statements under oath before a court reporter—of the various witnesses to the

case. Costs will also be incurred for copying records and for making duplicates of photographs. Miscellaneous expenses may also mount up for such items as travel to take depositions of witnesses, phone calls, and the retaining of expert witnesses. An uninsured physician can, therefore, expect to pay well in excess of $1,000 in expenses incurred in defense of a suit against him.

B. *Settling a Malpractice Case*

As most physicians are probably aware, many medical malpractice actions are settled without actually reaching trial. The settlement may require payment to the patient of anything from a few thousand dollars to a sum well in excess of $100,000. From the physician's viewpoint, settlement is oftentimes preferable to trying the case, because it avoids the uncertainty caused by the possibility that the physician may be subjected to a verdict substantially in excess of the settlement figure.

However, in most cases, plaintiffs will compromise their claims only because they are willing to trade the possibility of a high verdict for cash in hand. In such instances, settlement is therefore possible only if the plaintiff is assured that he will receive the agreed-upon sum immediately. That causes no problems for a physician covered by the substantial liquid assets of an insurance company. However, for the uninsured physician that fact poses a substantial problem. Does the physician settle a case and, to pay the settlement figure, sell some of his assets at a bad time, or perhaps obtain a loan at a high rate of interest, all to avoid the possibility of a high verdict? Or, does he reject the settlement, when in fact it might be the best course of action, and instead hope for the best at trial? For the uninsured physician that dilemma may be quite difficult to resolve. In some cases it may result in a physician's electing to defend the case by trial and losing a substantial verdict.

II. Judgment

If a physician elects to proceed to trial and wins, he will not be liable for any judgment but will be obligated to pay several thousand dollars in expenses and attorney's fees. If he loses, he will have to pay that plus the amount of the verdict with interest at 8 per cent per year. (K.S.A. 16-204) The plaintiff will, naturally, expect payment immediately. The losing physician then faces another dilemma. Does he liquidate part of his assets or obtain a loan at a high rate of interest to pay the judgment? Or does he demand a right to pay the judgment off in installments and hope that the court allows him to do so? If the plaintiff does not so agree, what then? The physician may well find that a plaintiff in such circumstances has a number of remedies.

A. *Execution on Physician's Assets*

In all likelihood, a winning plaintiff who seeks to satisfy his judgment out of the physician's assets will first obtain an order of execution from the court. The order of execution will be nothing more than a direction to the sheriff to take possession and sell enough of the physician's non-exempt property to satisfy the judgment. In most cases, the sheriff or his deputy will first come to the physician's residence or his office to obtain information as to what non-exempt assets the physician owns. The sheriff will then take physical possession of the assets and hold them until such time as they are sold.

In Kansas, the following assets of a head of a family are exempt from such execution:

1) A homestead of 160 acres of farmland or one acre of land within the limits of a town or city occupied as a residence, together with all improvements upon it, without limitation as to value.

2) The furnishings, equipment and supplies, including food, fuel and clothing, for the family for a period of one year if such items are on hand and reasonably necessary at the principal residence of the family.

3) Jewelry worth not in excess of $500.

4) One vehicle.

5) A family burial plot or crypt.

6) Books, documents, furniture, instruments, tools, implements and equipment, breeding stock, seed grain or growing plants stock, or the other tangible means of production regularly and reasonably necessary in carrying on a person's profession, trade, business, or occupation but not in an aggregate value of in excess of $5,000.

7) Life insurance policies upon the physician that name someone other than the physician or his estate as beneficiary.

(K.S.A. 60-2301; K.S.A. 1975 Supp. 60-2304; K.S.A. 40-414)

Obviously, the exemptions fall far short of making a physician judgment proof. A judgment creditor may reach and sell a physician's second car, any real estate other than his residence that he may own, his stocks and bonds, and any jewelry worth in excess of $500. A judgment creditor may also reach and sell most of a physician's equipment. Only the first $5,000 worth is exempt. That would, of course, mean that much of the expensive equipment and the physician's office building could be sold.

In the case of a physician who is not the head of a family, the exemptions afford even less protection. Such a physician would not be able to exempt even one car, nor a family burial plot or crypt. Furthermore, only office equipment, furnishings, and books valued at up to $2,000 would be exempt. (K.S.A. 1975 Supp. 60-2305)

Obviously, a physician who could exempt only $2,000 worth of equipment and the like could be left with virtually nothing with which to practice medicine.

B. *Aid of Execution*

Extensive though they may already appear, a judgment creditor also has a number of other remedies to aid him in collecting a judgment. If an execution is returned unsatisfied by the sheriff, the judgment creditor may institute what is known as an aid of execution. An aid of execution is nothing more than a procedure by which a defendant may be required to appear before a court and answer questions as to his assets.

The judgment creditor begins the proceeding by filing a motion requesting a court order directing the defendant to appear before the court. At the time of his appearance, the defendant physician will be interrogated as to his assets in open court under oath. If he does not answer truthfully, or if he does not appear, he will be in contempt of court and the judge is required by law to issue a citation requiring him to appear before the court and show cause why he should not be punished for contempt. (K.S.A. 1975 Supp. 60-2419) If the defendant physician should still fail to appear, the court may issue a warrant commanding the sheriff to arrest the physician and bring him before the court to answer for contempt. The court then has discretion to punish the person as it wishes. (K.S.A. 1975 Supp. 60-2419) The punishment may include a monetary fine, a jail sentence, or both. The law provides that a court may order a defendant to reappear from time to time, to again answer questions as to his assets. Specifically, the law states that a court may order a defendant to reappear if "it appears that the debtor may have property which he refuses to disclose or apply to such judgment. . . ." (K.S.A. 1975 Supp. 60-2419) In spite of that language, the practical application of the law is that courts routinely order defendants to reappear every month or two, at which time the same questions are usually put to them. If a defendant is ordered to reappear and fails to do so, he will be considered in contempt of court.

Thus, an uninsured physician who loses a malpractice case may find himself under court order to appear and answer questions as to his assets every month. He will thus be forced to leave his office once a month for as much as half a day, and will be subjected to a certain amount of embarrassment and humiliation by the fact of having to appear and answer questions as to his property holdings.

C. *Garnishment*

Another creditor remedy, perhaps the most embarrassing one from a physician's viewpoint, is garnishment. Garnishment means simply that the judgment creditor obtains a court order directing a third person who owes a debt to the defendant to pay that debt to the creditor. Most garnishments are no doubt issued against wages owed to the defendant and against a defendant's bank account. However, any liquidated debt owed to the defendant may be garnished. (K.S.A. 60-724)

Garnishment is typically used against factory workers and other wage earners. Recognizing the abuses that the process is subject to, both the Kansas Legislature and the Congress have provided exemptions from garnishment that in most cases amount to 75 per cent of a worker's take-home pay per week. (K.S.A. 1975 Supp. 60-2310; 15 U.S.C. 1673) However, the exemption only extends to "earnings," a term defined as "compensation paid or payable for personal services, whether denominated as wages, salary, commission, bonus, or otherwise." (K.S.A. 1975 Supp. 60-2310 (a) (1)) In other words, the exemption applies only in an employer employee context. A self-employed businessman has no exemption. For example, in *Gerry Elson Agency, Inc. vs. Muck,* 509 S.W.2d 750 (Mo. App. 1974), the court held that judgment creditors of self-employed businessmen may garnish 100 per cent of the monies owed to them by their customers.

Thus, an ex-patient who wins a large judgment against a physician may garnish not only the defendant physician's bank account but also all of his patients' that owe him bills. The physician can be compelled to disclose a list of all such patients as a part of the proceedings in aid of execution previously mentioned.

D. *Other Remedies*

Before moving on, various other creditor remedies should be briefly mentioned. K.S.A. 60-2202 provides that a judgment rendered by a court within this state shall be a lien upon the real estate of the debtor within the county in which the judgment is rendered. The law further provides that the lien shall be effective from the time at which the suit was filed but not to exceed four months prior to the entry of the judgment. A procedure is also provided for filing the judgment in other counties in which a judgment debtor owns real estate. In practical terms, the existence of a judgment lien means that a defendant physician could not sell any non-exempt real estate because he could not convey clear title. He would, therefore, be forced to satisfy the lien before selling any such property.

In certain circumstances, a judgment creditor may also find it advantageous to force a physician into involuntary bankruptcy. Generally speaking, bankruptcy

is not an economically viable remedy for a creditor, especially one with a large judgment against the potential bankrupt. The reason is quite simple. Once a person is forced into bankruptcy, all of his creditors come in for their proportionate share of the bankruptcy estate. The bankruptcy estate consists of all of the bankrupt's non-exempt property, which is usually sold at forced sale. In most instances the fund available will be insufficient to cover all of the debts. Any portion of the debt that is not covered by the bankruptcy estate is discharged and, therefore, uncollectible. More attention will be given to the bankruptcy laws later in this paper.

Judgment Avoidance Devices

If a physician elects to terminate his malpractice coverage, he will then be forced to consider what means he may take to avoid or at least minimize the remedies previously described. Obviously, the embarrassment and harassment that may be utilized by a winning plaintiff must be accepted as a fact of life. There is little, if anything, that a physician can do to avoid being summoned into open court to testify as to his assets. He can, however, minimize the effects of garnishment by requiring all patients to pay in cash either prior to or immediately after services are rendered, and by not maintaining any bank accounts of any size or engaging in any transactions in which some other party contracts a debt to him. However, those devices would have only minimal impact in most cases simply because of the size of many physicians' personal estates. Thus, consideration must be given to what devices, if any, are available to physicians to insulate their assets from levy and forced sale.

A. *Use of Exemptions*

The only two exemptions that offer any haven to physicians are those for a residence and for life insurance. In both cases, no limitation is placed upon the value of the asset. Therefore, an uninsured physician should, to make maximum utilization of the exemptions available to him, purchase the most expensive residence and the most life insurance that he can afford. Even after doing that, however, most physicians will not have fully insulated their assets from execution. Some physicians may own a variety of recreational equipment, such as a boat or a sports car, and also have investments in various ventures. More importantly, they are quite likely to have a substantial sum of money tied up in their office, including books, furnishings, equipment, and perhaps the building itself. There is no way under the present exemption laws to insulate such assets from attachment. Therefore, the crux of the problem is whether there is any means available to protect such assets.

B. *Transfer of Assets*

The device that springs to mind first is that of titling such assets in the name of some person other than the physician, ordinarily a spouse. A closely related method is transferring the property to some type of trust. The question is whether such devices have any reasonable hope of success in insulating the assets from a judgment creditor. In legal terminology, the issue is whether such devices constitute what are known as fraudulent conveyances.

K.S.A. 33-101 provides that "(a) 11 gifts and conveyances of goods and chattels, made in trust to the use of the person or persons making the same shall, to the full extent of both the corpus and income made in trust to such use, be void and of no effect, regardless of motive, as to all past, present or future creditors; but otherwise shall be valid and effective." The statute by its terms applies to only personal property or, in other words, to something other than real estate. Any such trust, then, is invalid as to all creditors if made "to the use of" the person making the conveyance. Fraudulent intent is not a factor under the statute. *(Herd v. Chambers,* 158 Kan. 614, 149 P.2d 583 (1944)) A similar provision exists for real estate. K.S.A. 58-2414 provides that "(a) grantor of lands, reserving an absolute power of revocation, shall be deemed an absolute owner as regards creditors and purchasers." It also does not make fraudulent intent an element.

Under K.S.A. 58-2414, a revocable trust is clearly insufficient to insulate real property from the claims of creditors. The same is true under K.S.A. 33-101 in a case of a revocable trust of personal property. *(Ackers v. First National Bank of Topeka.* 192 Kan. 319, 387 P.2d 840 (1963), *rehearing denied,* 192 Kan. 471, 389 P.2d 1 (1974)) If a trust is irrevocable, it will probably not run afoul of the two statutes even if the donor, that is the creator, retains a beneficial interest in it during his life, such as the right to income or perhaps to income and that portion of the principal that might be required by the donor during his lifetime. *(Ackers v. First National Bank,* supra, at 324) However, even if a trust does not run afoul of K.S.A. 33-101 and 58-2414, it still may be invalid as to creditors under the law of fraudulent conveyances. The same can be said for a transaction in which a physician transfers titles to his assets to some other person or purchases them with his own funds and at the time of the purchase has title transferred to some other person.

Simply put, a fraudulent conveyance is a transfer of property in fraud of creditors. (37 C.J.S. *Fraudulent Conveyances* §1) In Kansas, the basic definition of a

fraudulent conveyance is found in K.S.A. 33-102 which provides as follows:

> Every gift, grant or conveyance of lands, tenements, hereditaments, rents, goods or chattels, and every bond, judgment or execution, made or obtained with intent to hinder, delay or defraud creditors of their just and lawful debts or damages, or to defraud or to deceive the person or persons who shall purchase such lands, tenements, hereditaments, rents, goods or chattels, shall be deemed utterly void and of no effect.

Other statutes amplify and enlarge upon K.S.A. 33-102. K.S.A. 33-103 provides that except as provided for in certain commercial transactions, a sale or conveyance of personal property unaccompanied by an actual or continued change of possession shall be deemed to be void as against "existing or subsequent creditors, until it is shown that such sale was made in good faith and upon sufficient consideration." And K.S.A. 58-2407 provides that if the purchase price for land is paid by one person and the conveyance made to another, such conveyance "shall be presumed fraudulent as against the creditors of the person paying the consideration therefor; and where fraudulent intent is not disproved, a trust shall in all cases result in favor of prior creditors to the extent of their just demands, and also in favor of subsequent creditors if there be sufficient evidence of fraudulent intent."

All such statutes require intent to defraud creditors before any conveyance or other transfer will be struck down. If a physician should convey away all of his assets at a time when he knows of a malpractice claim against him, there will be little problem in finding that the conveyance was intended to defraud that claimant, and is thus void. But if the transfer is made at a time when the physician has no knowledge whatsoever of a claim against him, most likely before any claim has even arisen, the issue becomes less susceptible of being easily resolved, because of the obvious difficulty in attempting to decide whether a person intended to defraud someone that did not even have a claim at the time of the transfer.

Ordinarily, a voluntary conveyance is voidable only by existing creditors. *(Sawyer v. Goyette,* 153 Kan. 243, 109 P.2d 157 (1941)) For example, in *Voorhis v. Michaelis,* 45 Kan. 255, 25 P. 592 (1891), the Kansas Supreme Court stated that "[a] voluntary conveyance made to defraud creditors is void only as to prior and existing creditors, and to those designed to be defrauded by the conveyance." (45 Kan. at 255, syll. ¶2) However, in some circumstances a conveyance may be void as against a subsequent creditor. In *McPherson v. Kingsbaker,* 22 Kan. 646 (1879), at syllabus ¶1, the court stated that "[a] conveyance may be void as against a subsequent creditor, if made with a specific intent to defraud such creditor." But, a subsequent creditor bears the burden to show fraud and a transfer is "not open to the attack of subsequent creditors unless it was made in contemplation of future indebtedness to those designed to be defrauded by the transfer." *(Union National Bank v. Kramer,* 121 Kan. 180, 246 P. 976 (1926)) To much the same effect are *National Bank v. Jaffray,* 41 Kan. 694, 21 P. 242 (1889); *Sheppard v. Thomas,* 24 Kan. 780 (1881); and *Sanderson v. Streeter,* 14 Kan. 458 (1875).

Our research has not disclosed any Kansas case in which a conveyance of property was made so as to insulate assets in the event of tort liability. What Kansas law that exists has dealt with subsequent creditors in the context of a contractual debt arising after a conveyance of property. In most such cases no fraudulent conveyance has been found. However, the basis for the decisions has usually been either that there was no showing that at the time of the conveyance a person who transferred the property had any intention of becoming indebted. Furthermore, there has oftentimes been a finding that the subsequent creditor knew or should have known of the status of the title to the property at the time the credit was extended. *(Sawyer v. Goyette,* supra; *Union National Bank v. Kramer,* supra; *Sanderson v. Streeter,* supra) In the case of a physician who transfers his assets, the reliance factor would, of course, not be present. That is, patients would not know and would have no way of knowing that the physician owned little or no property himself. Also, a physician might be hard put to state that at the time of the conveyance he had no expectation whatsoever that he might be held liable for malpractice when in fact the very reason for the transfer was to insulate his assets from that potential liability.

Cases from other jurisdictions, few though they may be, buttress the conclusion that the most likely outcome of a conveyance by a physician of substantially all of his assets would be that the transfer would be deemed fraudulent as to a subsequent malpractice claimant. An annotation at 38 A.L.R. 3rd, 597 collects the cases dealing with the question of whether a conveyance is fraudulent when it is made in contemplation of possible liability for a future tort. The author of the annotation indicates that extensive research had turned up only six cases on point. The very nature of the issues involved in a fraudulent conveyance case dictate that different facts will result in different conclusions. For example, in two cases a conveyance before incurring liability in negligence for an automobile accident was held not to have been fraudulent. (38 A.L.R. 3rd at 600) In both cases the courts concluded that there was no showing that the conveyance had been made with the expectation that

liability might be incurred for an automobile accident. However, in the leading case of *Boid v. Dean,* 48 N. J. Eq. 193, 21 A. 618 (1891), a conveyance by a former partner eleven months prior to making slanderous statements against the plaintiff was found to be fraudulent. In the course of its decision the New Jersey court made the following statement:

> The principle which underlies it is that there is no distinction in this respect between a cause of action founded upon tort and one founded upon contract. Each are equally entitled to be protected against voluntary transfers of property. If this is so, then it seems plainly enough to follow that, if a transfer be made for the purpose of immunity against torts thereafter to be committed, it is open to the same objection as if made to avoid paying future contractual obligations. In fact, it seems to me that the party who suffers from a tort stands on higher ground in this respect than one who suffers from a broken contract, and that the argument from the latter to the former is a fortiori, since he who contracts with another does so voluntarily, and with opportunity to inquire and investigate into the responsibility and reliability of his debtor, while the sufferer from tort has no opportunity to avoid injury.

(21 A. at 622) The decision apparently turned upon a finding that at the time of the conveyance the former partner had intended to make the slanderous statements. Nevertheless, the court painted with such a broad brush as to clearly provide a basis upon which a finding could be made that a conveyance is fraudulent if made to avoid potential tort liability.

Another important case, not only because of its decision but also because of its bizarre facts, is *Watson v. Harris,* 435 S.W.2d 667 (Mo. 1968). In that case, a 71-year-old man delivered deeds to all of his real estate to a stepdaughter and her husband less than 48 hours before he killed both himself and his 51-year-old girlfriend. The Missouri Supreme Court affirmed the trial court's decision setting aside the transfer as a fraudulent conveyance and void as to the girlfriend's heirs. In so doing the court relied, in part, upon the following "badges of fraud":

1) Prior expression of ill will by the man toward the girlfriend;

2) A transfer of all real property except a cemetery lot;

3) The close relationship between a stepdaughter and her husband to the man;

4) No consideration paid for the property;

5) Transfer was not made in the usual course of business but was done in haste and without explanation or discussion.

The court also relied upon the doctrine that a conveyance of all of his property by a person who plans to enter a hazardous business is deemed fraudulent.

Although the facts of the *Watson* decision would not be at all analogous to a case in which a physician conveys away substantially all of his assets, the case still may have substantial impact upon a Kansas court. The decision recognizes the rule that a conveyance is fraudulent if made before entering into a hazardous business. Our research has disclosed only one case in which that rule was even recognized. In *Jones v. Johnson,* 7 Kan. App. 616 (1898), the court held that a transfer will not be permitted to stand if the evidence shows that the purpose and effect of it was to place the "hazards of the business in which the person making the transfer is engaged, or is about to engage, upon others to whom he expects soon to become and in fact shortly thereafter does become indebted." (7 Kan. App. at 617 syll. ¶3) The language of that holding does not go so far as to state that a conveyance made before entering into a hazardous business is fraudulent. Nevertheless, the generally accepted rule does appear to be that "a conveyance made with the view of entering into some new and hazardous business, the risk of which the grantor intended should be cast on the parties having dealings with him in the new business, is fraudulent as to subsequent creditors." (37 C.J.S. *Fraudulent Conveyances* §135 at 962; *see also* 37 Am. Jur.2d *Fraudulent Conveyances* §143) We have found no case with facts at all analogous to those that would arise were a physician to discontinue his malpractice coverage. Therefore, we are unable to predict whether the practice of medicine would be considered a hazardous business such that the rule would be applied. Nevertheless, it does remain a possibility.

The *Watson* decision is also important for its use of the badges of fraud. Badges of fraud are simply suspicious circumstances that, if unexplained, may warrant an inference of fraud. *(Schreiber Milling Co. v. Nutrena Mills, Inc.,* 149 Kan. 276, 87 P.2d 577 (1939)) The generally accepted badges of fraud are:

1) Inadequate consideration;

2) Transfer in anticipation of suit;

3) Transfer not in the usual course of business;

4) Giving of an absolute conveyance that is intended in fact only as security;

5) Failure to record a conveyance or unusual delay in recording it;

6) Secrecy and haste;

7) Insolvency or substantial indebtedness at the time of making the conveyance;

8) Transfer of all or nearly all of a person's property;

9) Excessive effort to clothe the transaction with an appearance of fairness;

10) Retention of possession;

11) Reservation of a trust for the grantor in the conveyed property;

12) Existence of a blood or other close relationship between the parties to the transfer combined with other suspicious circumstances.

(37 C.J.S. *Fraudulent Conveyances* §§81-96) In almost all cases involving transfers of property by physicians so as to insulate assets from execution, some badges of fraud would be present. In Kansas, a badge of fraud is subject to explanation and contradiction by other circumstances, but it may give rise to an inference of fraud. *(Schreiber Milling Co. v. Nutrena Mills, Inc.,* supra) In most cases, the question of whether a transfer was fraudulent and void as to subsequent creditors, when badges of fraud are present, will be one of fact to be determined by a jury or the court. *(Polk v. Polk,* 210 Kan. 107, 499 P.2d 1142 (1972) Thus, in almost all cases involving a transfer of property by a physician, the plaintiff's attorney will be successful in getting the case submitted to the trier of fact.

As a final point on fraudulent conveyances, the possibility of the application of the Federal Bankruptcy Act should be mentioned. As was pointed out previously, in certain rare circumstances, a judgment creditor may find it advantageous to force a physician into involuntary bankruptcy. Section 3 of the Bankruptcy Act, 11 U.S.C. §21, specifies the "acts of bankruptcy" that justify involuntary bankruptcy. The only act of bankruptcy likely to be helpful to a winning plaintiff in a malpractice case would exist if the physician had "made or suffered a transfer of any of his property, fraudulent under the provisions of Section 67 or 70 of this Act." Section 67(d)(2) of the Bankruptcy Act provides that every transfer made within one year prior to the filing of a bankruptcy petition, voluntary or involuntary, is fraudulent "as to then existing creditors and as to other persons who become creditors during the continuance of a business or transaction, if made or incurred without fair consideration by a debtor who was engaged or is about to engage in such business or transaction, for which the property remaining in his hands is an unreasonably small capital, without regard to his actual intent." If a plaintiff could not prove a fraudulent conveyance under Kansas law, and if the physician had within one year of the date of the filing of a bankruptcy petition given away most of his assets, a plaintiff could use that section of the Bankruptcy Act to attempt to invalidate the transfer with the hope that he be by far the largest or perhaps the only creditor and would, therefore, receive substantial satisfaction of his judgment.

C. *Incorporation*

One other means of insulating assets that might occur to some physicians is incorporation. Incorporation by a physician or physicians is specifically authorized under the Kansas Professional Corporation Law, K.S.A. 17-2706, et seq. That act specifically provides that the "general laws of the state of Kansas relating to corporations, . . . except as otherwise provided herein, shall be applicable to a professional corporation organized pursuant to" the act. (K.S.A. 17-2708) The act also provides that it "shall not affect any law, duty, right, or privilege arising out of or applicable to the relationship between a person rendering professional services and a person receiving those services, including, but not limited to, liability or privilege arising out of the professional services." (K.S.A. 17-2715) Although the Professional Corporation Act is yet to be considered by a Kansas court, its draftsman has indicated that the act definitely provides limited liability for shareholders as to all dealings of the corporation not related to the rendering of professional services, and may provide limited liability for professional malpractice as to those shareholders not directly involved in the rendering of the services in question. *(Bell, should you incorporate your practice?,* 35 J.B.A.K. 173, 205 (1966)) At any rate, a member of a professional corporation could clearly not absolve himself of personal liability for malpractice merely because of his interest in the corporation. Furthermore, the corporation, under established Kansas law, would be liable for the malpractice of its shareholders committed when they are rendering professional services on behalf of the corporation. *(Russell v. American Rock Crusher Co.,* 181 Kan. 891, 317 P.2d 847 (1957))

D. *Summary*

In conclusion, then, the chances of a physician becoming judgement proof after terminating his malpractice coverage are slim at best. Kansas law is unsettled, and there are no similar cases in Kansas or elsewhere upon the issue of whether a subsequent malpractice claimant will be successful in voiding any substantial transfer of assets, whether that transfer be to the physician's spouse or other relative or to a trust. In our opinion, such a result would be unlikely; however, such an action would be in equity, and in the proper situation, conceivably possible. Therefore, a physician who terminates his malpractice coverage should be prepared to suffer the financial consequences of an adverse judgment.

Bankruptcy

As was just pointed out, judgment creditors in certain limited cases may find it advantageous to force a physician into bankruptcy. In most cases, however, bank-

ruptcy will be a remedy favoring the physician rather than the judgment creditor.

Nevertheless, bankruptcy is not a procedure to be relied upon by physicians, but rather used as a last resort. The reasons are several. A person who takes bankruptcy may not do so again for six years. (Bankruptcy Act §14c) Filing a petition in bankruptcy vests title to all of the bankrupt's non-exempt property in the trustee in bankruptcy. (Bankruptcy Act §70a) The trustee in bankruptcy is simply an individual who is charged with the duty to represent the creditors and to collect and liquidate the estate. (Bankruptcy Act §47) Thus, the trustee in bankruptcy will take possession of all of a bankrupt physician's non-exempt property and sell it to pay the creditors. The exemptions are those allowed under state law. (Bankruptcy Act §6) As was pointed out at the beginning of this paper, the exemptions provided by Kansas law to a physician provide little protection. Thus, a physician who takes bankruptcy must expect to lose almost all of his assets.

Tax Implications

A physician who is contemplating "going bare" should also give consideration to the tax implications of the various transfers that he might make in an attempt to insulate his assets from execution.

A. *Gift Tax*

The immediate hurdle that he will face will be the gift tax. The law provides that an individual may exclude from taxable gifts each year the first $3,000 in gifts made to any person, with no limit on the number of persons to which gifts are made. (Internal Revenue Code §2503 (b)) No exclusion is permitted, however, for gifts of future interests—that is an interest that will not commence in possession or enjoyment until some future date—with the exception of certain gifts in trust to minors, in which the trustee can expend the entire property for the minor's benefit prior to his reaching age 21 and in which the minor will receive the property at age 21. (Internal Revenue Code §2503 (b), (c)) Gifts by a husband or a wife to third parties may be treated as made one-half by each spouse; the result is that a husband and wife may together exclude $6,000 of gifts per year per person from their taxable gifts. (Internal Revenue Code §2513) In addition, each person who is a citizen or a resident of the United States has available to him a lifetime exemption against gift taxes otherwise payable in the amount of $30,000. (Internal Revenue Code §2521) As with the yearly exemption, a husband and wife may split a gift such that they together may make a total of $60,000 worth of gifts free of tax even if the property was owned by one or the other. (Internal Revenue Code §2513) Finally, because of what is known as a marital deduction, if gifts are to be made only to an individual's spouse, the effect of the specific lifetime exemption is doubled, so that the donor can make tax-free gifts of up to $60,000, over the annual exclusions, to a spouse without liability for gift tax. (Internal Revenue Code §2523)

Physicians who seek to insulate their assets from execution by a judgment creditor will, of course, use a variety of means. Trusts would no doubt be employed in certain cases, while in others the physician will simply transfer the property to a spouse outright. It is beyond the scope of this paper to discuss the tax implications of every conceivable method or even those that are most likely to be utilized. However, an example should serve to illustrate the size of the financial problem and to point out the need for some tax advice. For example, consider the situation of a physician who owns non-exempt assets worth $250,000. His house and life insurance would be the principal assets excluded from that figure. He terminates his malpractice coverage and wishes to transfer all of the property to his wife at one time. The minimum tax upon that transfer would be $13,845. Because of the progressive tax rate structure, the larger the gift the higher the tax rate. If the physician's spouse were dead and the physician elected to transfer the assets to a child, the tax would increase to $41,850.

B. *Estate Tax*

In addition, such a procedure could also cause substantial estate planning problems. In the usual case, it is advisable to utilize the gift tax exemptions to equalize the value of the estates held by a man and wife. Because of the progressive tax structure, the combined tax upon two estates will be less than if the two estates were one. Although the value of a residence and life insurance may be great enough to balance the other assets held by a physician, it would seem quite likely that in many cases a transfer of assets by a physician will result in greatly disproportionate estates between the physician and his or her spouse. While the problem may not be insurmountable, a physician in such a posture will no doubt be forced to obtain expert tax advice as to how to deal with the situation.

Personal Problems

Finally, brief note should be made of the non-legal problems that may arise in such a case and the legal implications that such problems may have. The problem with transferring assets, of course, is that the physician

is then dependent upon the will of the person to whom the assets are transferred. If that person happens to be the physician's spouse, and if the physician and the spouse are on quite good terms, there will no doubt be no problems. But, even if the relationship is amicable at the time of the transfer, disharmony may later develop. Should a divorce action result, one of the key issues will be the division of property. The spouse may be simply unwilling to part with the property transferred by the physician. A court may agree with the spouse's position and refuse to order the property transferred back to the physician. Furthermore, if a divorce action begins at a time after which a malpractice claim has been filed against the physician, any division of property that insulates non-exempt assets of the physician from execution may be held voidable as a fraudulent conveyance if the wife receives property in excess of her needs. (*Jayhawk Equipment Co. v. Mentzer*, 193 Kan. 505, 394 P.2d 37 (1964))

Should the physician elect to transfer property to an irrevocable trust, a problem may later arise if the physician wants the property back. An irrevocable trust is generally just that—irrevocable. That means that a physician may well be unable to reach the property at some later date. In certain instances, it may be possible to terminate the trust if all parties to it, including beneficiaries, are agreeable. However, a physician simply cannot count upon such an agreement.

Conclusion

This paper has primarily considered the disadvantages involved in terminating malpractice coverage. The reason is simply that the advantages are quite apparent and can be summed up quickly, while the disadvantages are not so apparent and require considerable discussion. The physician who terminates malpractice coverage and attempts to structure his estate as outlined above, should do so in the realization that he will from that time forward for all practical purposes be insolvent. His flexibility in dealing with his property holdings may be substantially hampered. He may in fact find that almost all of his assets are subject to execution, even though he has transferred title to other persons or entities. Whether a physician should elect to discontinue coverage, if the same is allowed by state law, is a personal judgment which should be made only after consultation with the physician's personal attorney.

Health Care Delivery

(Continued from page 254)

The third and fourth reasons for proper cooperation and coordination can be discussed concurrently, but not in detail at this time. Community recruitment and the creation of an attractive environment for the young professional requires major consideration. Certain important facets should be mentioned, however, as they do relate to the first two reasons discussed.

It is important to point out that we may be dangerously close to reversing the experience of the Murphy program of the 1950s. At that time, small rural hospitals were constructed but the training of physicians capable of practicing medicine in these hospitals was neglected. We are now beginning to train family practice specialists capable of practicing in rural communities, but we may be neglecting special efforts to create environments in small communities in which these well trained professionals may live and practice. The latter can be done, but are we willing to put forth the money, the time, and the energy?

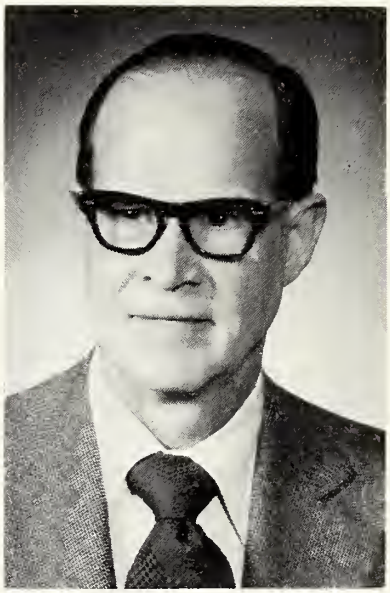
Such expenditures would certainly be productive for any community in attracting many young people, in addition to physicians. This, however, is something that cannot be done by medical education and it is proposed here that it become a total university effort. What better contribution could higher education make in Kansas than adding this service potential to its already outstanding accomplishments in the education of its young citizens and, furthermore, it may well be that such involvement will be absolutely necessary if we are to solve and alleviate our health care delivery problems.

Although this discussion has centered on family practice, it might well include the general internist, the general pediatrician, the general surgeon, and perhaps the obstetrician and gynecologist—all being trained for primary and secondary care. It may be that somewhere down the line we may have one primary physician as advocated by Millis, but if we do, it will not be by edict but by evolution.

Finally, an all-university effort in creating a good environment for a health care reticulum similar to that described in the Walker Committee report, and proper direction by medical education in producing health care personnel to fill that reticulum, is not too much for society to expect for adequate health care dollars.

Cooperation and coordination are the key. Not coercion and control.

The President's Message



Thanks to our Saline County group for a most successful annual meeting. We appreciate all of your efforts.

One action taken at the last Council meeting was to retain Mr. George Trombold so that he may continue his fine help, which we have come to appreciate so much. Part of his work this summer and fall will be to help us in the area of candidate support, so we can continue our legislative program next year with the expectation of some degree of success.

As individuals and through our Society, it will be extremely important to continue our improved relationship with our legislative friends. Every doctor in Kansas should attempt to develop a good functional relationship with his senators and representatives at the federal level —but perhaps more urgently right now, at the state level. They need us and we need them. I am aware how trite and elementary this sounds, but this makes it no less important. Meet your legislators, and discuss health care problems with them. Let us continue to help with the planning of good health care legislation, and never revert to only trying to oppose poor or harmful legislation.

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

Power of Accommodation

Periodically, we experience attacks of heresy and with an opening like that it is apparent that this is one of them. The current bout was brought on by reading recently that an "Inquiring Reporter" had confronted a passing citizen with a request for his opinion on one of the physicians' "strikes" then in progress. Said citizen opined that physicians shouldn't strike "because they have taken the Hippocratic Oath."

There are a number of defects in the gentleman's thought. First, Hippocrates didn't have much to say about strikes, though we agree that the tenor of his writings indicates he would have been against them if he had really thought about the matter. Second, some physicians (we are one) did not take the Hippocratic Oath for some reason (in our case the fact that we were otherwise occupied and didn't even get to graduation and are really only presuming that it was administered to those who were there). The implication is that it would be all right for us to strike, but not you disciples who took the pledge. But third, the odds are that our friend wouldn't know the Hippocratic Oath from a recipe for loblolly, and had only a vague notion that it was some kind of contract devised to keep physicians on the job at all times and under all conditions.

It is time to point out, therefore, that the taking of the Hippocratic Oath is a pleasant ceremony observing the continuum of medical practice through its long history —nothing more. Its practical significance lies somewhat below that of the oaths administered to initiates into Scouting, though distinctly above that of oaths subscribed to by public office-holders. This oath-taking is an interesting manifestation of our culture. To the young, it is an expression of their conviction that they are really going to do a much better job than their predecessors. For the old, it offers consolation as they look back with the profound conviction that they have truly lived according to it, forgetting or ignoring their transgressions and shortcomings. Those inbetween are usually too busy getting the job done to think much about it one way or the other. But basically, the practice is an admission of human frailty, since its purpose is to limit our options and block our exits so we'll have no choice but to behave. Laudable as the intent may be, it reckons without a law we plan to discover some day: For every restrictive intent, there is an equal and opposite accommodation.

For instance, Hippocrates starts out by invoking Apollo and Aesculapius and Hygeia and the rest. Now there just aren't too many adherents to the old Greek polytheism in these parts, so right away we can (and do) accommodate to all that follows by saying that, since we don't go to that church, we really aren't bound by it. For that matter, even Hippocrates wasn't too sure of himself, since he included, as did most good oath writers of his day, "all the other gods and goddesses," indicating that he wasn't certain how many there were and he didn't want to offend any of the gang up at Olympus.

As it happens, a fair portion of the oath really has little to do with the actual practice of medicine—the part about how you are supposed to treat your teachers at least as well as your folks and look after their kids and so on. We had always thought this should be enough to make any teacher chary, until we realized that Hippocrates' basic idea has (heretofore) escaped the scholars who have interpreted the oath for us. The concept he is promoting should, in fact, make him the Patron Saint of Alumni Secretaries. What he is doing is programming the graduates, so that when they get out to Delphi and Thrace and Athens they'll send those drachmas back to the Plane Tree Endowment Fund, thereby assuring that the good old boys (and girls, if there were any in those days) on the faculty will be looked after—and the government can be kept out of medical education. If this seems to imply a certain direct relationship between the physician's adherence to the oath and subsequent material success, it introduces a degree of leverage not hitherto exploited to full advantage by the schools.

Then there's the part about cutting to the stone, which

till worries us despite numerous scholarly interpretations. He leaves no doubt that this is a job for lesser mortals and, therefore, to be shunned by the good guys. But is H. against all surgery, or just where stones are involved? As one who has labored with a couple of them—and managed to deliver same without being cut to—we can say that we weren't too far from engaging a passing barber or anyone else who would have relieved the situation, Hippocrates or no Hippocrates. But ignoring this personal interjection, the only provision of the oath which has suffered more accommodative interpretation to satisfy the interests of the interpreter is his stricture against abortion. He apparently limited it to the matter of using a pessary, but some of his translators—perhaps with some lack of objectivity—have made the phrase general and, therefore, inclusive of all modes.

Then there's the part about how the physician should behave while in someone's house. The public would probably consider this point moot since it knows that house calls are extinct anyway. The point has reference to general behavior, however, for which there are plenty of other restrictions—moral, legal, economic, and so on—which are probably more of a restraint than this oath. It is a little difficult to imagine the physician (male *or* female) interrupting a progressive and up-to-that-point successful program of seduction by thinking, "What am I doing? What would Hippocrates say?" One gets the impression that Hippocrates' inclusion of this clause is in the same category as the civil authorities posting the 55-mile speed limit—not really expecting compliance but making the transgression a little more uncomfortable.

And so it goes. Each point has a built-in escape hatch or invites this accommodation which is the truly enduring characteristic of the profession. But the clause which nullifies the whole thing is this: "I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous." Now, what practitioner will admit to acting other than for the benefit of the patient? What problem has plagued Hippocrates' disciples through the ages more then defending their actions against the charges of being deleterious or mischievous? Then he compounds it by having us promise, "With purity and holiness, I will pass my life and practice my Art." By this time, our evasive maneuvers prompt the belief that that noble symbol of the physician, the caduceus, has nothing to do with sticks or snakes, but derives from the crossed fingers.

Well, Hippocrates said the Art was long, and he was righter than even he knew. But one wonders if he had any idea of the ramifications of medical practice which would develop, or the liberties which would be taken in his name, or the reduction of his oath to a level of influence in the contemporary world to that of Apollo and the gang. Or whether, if he were alive today, he would take the oath himself.—*D.E.G.*

Vox Dox

Vox Dox Editor:

You are to be complimented on the excellence of the May issue of THE JOURNAL. The articles on the special problems encountered in summertime are most valuable, and your publishing them together makes the issue worthy of some sort of prize.

Congratulations!

THOMAS S. HARVEY, M.D.
Wichita

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

Official Proceedings

1976 Annual Meeting of the House of Delegates

Transactions of the 117th Annual Session of the Kansas Medical Society are published in this issue of THE JOURNAL.

The resolutions were referred to Reference Committee A (William C. Swisher, M.D., Wichita, Chairman) or Reference Committee B (Max E. Teare, M.D., Garden City, Chairman). The resolutions are printed in numerical order under the minutes of the Second House of Delegates meeting. Resolutions No. 76-11, 76-28, and 76-29 had been placed on the consent calendar and were adopted at the meeting of the First House of Delegates, on Sunday, May 2, 1976.

The resolutions which were not adopted but which were referred for further study are so indicated. The resolutions which failed to pass are retained in the official minutes at the Executive Office, but are not recorded here.

FIRST SESSION

The first session of the House of Delegates of the Kansas Medical Society met on Sunday, May 2, 1976, beginning at 9:00 AM at Marymount College, Salina. The meeting was called to order by Clair C. Conard, M.D., Speaker, who explained the composition of the House and placed some rules before the body, which he said would be followed until such time as the House elected to challenge them.

Raymond S. Freeman, M.D., President of the Saline County Medical Society, extended a welcome and expressed appreciation to the Kansas Medical Society for holding its meeting in Salina this year.

Minutes of the May 1975 and November 1975 meetings of the House of Delegates were approved.

Mr. Oliver E. Ebel was presented a plaque for "his 31 years of outstanding service to the physicians and citizens of Kansas."

Mr. Joseph Boyle, AMA Board of Trustees, gave a brief report of the activities of the American Medical Association.

The House heard the following reports.

Constitutional Secretary Report

Phillip A. Godwin, M.D., Constitutional Secretary, presented the following summary of the membership of the Society for 1976:

Dues Paid Members	1,642
Resident Members	26
Emeritus Members	99
Leave-of-Absence Members	26
Personal Exemption Members	6
Retired Members	130
Service Members (Armed Forces)	7
Student Members	6
Honorary Members	3
Delinquent Members	260
Total	2,205

This compares with the total membership in previous years as follows:

1970	1,921
1971	1,990
1972	2,003
1973	2,033
1974	2,078
1975	2,137

Necrology Committee Report—David E. Gray, M.D., Chairman

Death, the uncertain certainty, has continued its inroads upon our Society. The reading of the names of those members who have died during the past year constitutes a formality by which this brings them permanent enrollment in the archives of the Society, but as I read these names, I would invite your reflection upon them individually, the wealth of medical service represented, and the consequent responsibility which passes on to us.

Name and Address	*Age*	*Date*
Joseph H. Baker, *LaCrosse*	87	Mar. 27, 1976
Harold R. Barnes, *Hutchinson*	74	Feb. 22, 1975
Clarence H. Benage, *Pittsburg*	73	Nov. 20, 1975
Herbert S. Bennie, *Almena*	79	June 25, 1975
John A. Billingsley, *Kansas City, KS*	78	Nov. 30, 1975
Frank C. Boggs, *Topeka*	89	Mar. 26, 1976
John Brownlee, *Hutchinson*	93	Aug. 25, 1975
Walter A. Carr, *Junction City*	98	Dec. 9, 1975
Porter M. Clark, *Independence*	77	Jan. 23, 1975
John S. Coleman, *Wichita*	85	Aug. 3, 1975
O. W. Davidson, *Kansas City, KS*	77	May 8, 1975
Ned B. Gorrell, *Parsons*	54	Feb. 20, 1976
Boyd L. Greever, *Hutchinson*	83	Dec. 5, 1975
Mayro O. Hedge, *Kansas City, KS*	87	Jan. 23, 1975
A. L. Hilbig, *Liberal*	74	Jan. 24, 1976
R. O. Howard, *Wichita*	94	Apr. 18, 1975
Thor Jager, *Wichita*	93	Nov. 18, 1975
Charles H. Johnson, *Shawnee Mission*	63	Apr. 18, 1975
Francis D. Kennedy, *Norton*	84	Feb. 8, 1975

John H. Lathrop, *Scott City*	58	Jan. 27, 1975
Rene P. Lefebvre, *Topeka*	55	June 2, 1975
Sylvia D. Lofgreen, *Ottawa*	77	Dec. 22, 1975
Orville A. McDonald, *Topeka*	90	Dec. 31, 1975
George E. Milbank, *Wichita*	78	Jan. 26, 1976
Francis J. Nash, *Kansas City, KS*	63	May 15, 1975
H. Preston Palmer, *Scott City*	78	July 6, 1975
David F. Parker, *Tonganoxie*	73	Mar. 28, 1976
Marion C. Pearson, *Concordia*	51	Aug. 21, 1975
Lloyd E. Peckenschneider, *Halstead*	77	Dec. 30, 1975
Mirl C. Ruble, *Cherryvale*	79	Jan. 27, 1975
Fred G. Schenck, *Burlingame*	80	July 31, 1975
Edward J. Schulte, *Shawnee Mission*	74	Apr. 7, 1975
John C. Scott, *Great Bend*	49	Oct. 4, 1975
Orval L. Smith, *St. Marys*	63	Mar. 20, 1976
Maurice F. Stock, *Pittsburg*	64	June 9, 1975
F. I. Stuart, *Atchinson*	90	Dec. 25, 1975
David L. Traylor, *Topeka*	58	Mar. 7, 1976
Gerald C. Unrein, *Hays*	82	Feb. 17, 1975

Editorial Board Report—David E. Gray, M.D., Editor

If your loyal and trusted assistants have not been screening your mail too rigidly, you know that the Kansas Medical Society has continued to publish the JOURNAL at approximately monthly intervals. This happens to have been one of the good years by which I mean we are solvent. Somewhere in that pile of paper the staff has provided for you, you will find our financial report, which I shall skip over since you can read at least as well as I can and, furthermore, I do not want to dwell on our affluence too much lest you get ideas about trimming us back.

As you may know, the JOURNAL this year celebrates its Diamond Anniversary, an event which, to date, has been recognized only symbolically, although the members of the Board would not be averse to accepting any appropriate material recognition which might be offered (but probably won't be). Our own recognition will be evident in the July issue, which will be made up of papers of historical interest which we are sure will attract delighted attention, at least from the authors. I would remind you that in the days before the JOURNAL was established, when the *Transactions* constituted the only publication of the Society, a major function of this meeting would have been to approve the disbursement of the funds necessary to pay for their publication. Some cynic, of which, of course, there are none here, might say that the change in name has brought no discernible change in approach.

From the editorial standpoint, we have enjoyed a heartening supply of offerings, and we are hopeful that our income will continue in that area as well. True, the withholding of papers from the April and August issues has enhanced somewhat the nourishment of the other issues, but we have real gains in papers submitted as well. I might note, as an inducement to prospective authors, that the necessity of finding space for your contributions might even result in a shortening of the editorials.

The year in the JOURNAL office has not been without its moments of high drama. At one point, Lochinvar Slaughter and his border ruffians rode in and attempted to carry off our fair Managing Editor. I am happy to say, however, that that redoubtable lady successfully defended her editorial virtue and continues to be the major spirit and force of our effort, even while she juggles another ball in her capable hands. The panic we felt at the prospect of losing her has given way to the joy of knowing she will not desert us, and we are inspired to note lyrically that—

Roses are red,
Violets are blue,
Valentine Braun,
The Board loves you.

It has become virtually impossible to complete an Editorial Board report without reminding you that the Vox Dox column awaits your opinions and observations. In recognition of the volume and vigor of rhetoric to which you will be subjected during these sessions, I shall simply submit that reminder and retire, leaving you with the thanks of the Board for keeping us alive for 75 years.

The President—John W. Travis, M.D.

When I assumed the presidency of this proud Society in Overland Park last May, my comments to you were uncharacteristically brief. As I recall, I promised you that we would try to make a start toward correcting the problems which were leading rapidly to a crisis in the availability and cost of malpractice insurance and the climate of medical professional liability in Kansas. Others will detail for you the foundation that has been constructed through a cooperative effort among the office of the Governor, Commissioner of Insurance Fletcher Bell, leaders in the Legislature—especially Senator Wesley Sowers—Kansas insurors, and the Kansas Medical Society. We had hoped for even more cooperation than we actually received from the Kansas Bar—which has yet to come to appreciate its own self-interest in the matter. Even broader changes in the tort system which deals with alleged medical malpractice are necessary for a complete solution. Our efforts must continue.

For instance, the screening panels devised by the legislature, while of merit in their general intent, are so constructed that I, for one, seriously question whether or not they can be truly effective. Next year, we must interest the legislature in serious consideration of a

meaningful arbitration approach to alleged medical injuries. The discovery period for minors needs further study, but the unique language in the new statute sharply defining the time of alleged cause is a landmark.

I hope your commitment to a second $50 annual assessment expressed at the special meeting in Topeka on February 22, will be renewed here in Salina. We cannot press on without it.

Speaking of money, I did set one record. I spent more of your hard-earned dollars than any president in the history of our Society. Nearly $100,000 has been invested in the professional liability program. I am convinced, however, that this will prove to be a sound investment in the base for final achievement of a professional liability environment which encourages physicians to practice excellent medicine in Kansas.

In the process of developing our legislative program, several noteworthy new steps were taken.

Right off, we retained a general counsel—Mr. Wayne Stratton of Topeka—and a legislative counsel—Mr. Payne H. Ratner, Jr., of Wichita and Topeka—who have worked with the truly remarkable young man who is your Executive Director—Mr. Jerry Slaughter—in a team approach which proved extraordinarily effective in dealing with the problems which confronted us. There is no reason to expect that a legislative year will pass in the future when we do not need the same kind of a reasoned, coordinated approach if we are to cope effectively with the initiatives of many others which affect medicine and, at the same time, present an affirmative case for good medical care for Kansas citizens as we, Kansas phyicians, conceive it before the legislature and regulatory agencies. I strongly urge that it be the continuing policy of the Kansas Medical Society to keep this "team" at work together.

This past year has also borne witness to an extraordinary demonstration of leadership and hard work on the part of my colleagues on the Executive Committee, the Council members, and each of the appointed commission chairmen, as well as many of their commission and committee members. I would like at this time for all of those involved to stand and be recognized by your hearty applause.

I want now to give special recognition to several individuals whose intense personal efforts are very largely responsible for a major improvement in the professional liability situation. Dr. Gregg Snyder of Wichita—at substantial personal sacrifice—has devoted countless hours of determined and highly effective effort to the task of carrying your best interest in the professional liability area. Standing with him, and also due your special thanks, have been Dr. Dan Roberts, Dr. Jim Loeffler, and Dr. Max Halley, as representatives of the many individuals who gave so unselfishly to bring this problem into focus for the legislature, and help guide it through. Throughout the deliberations of the Commission on Professional Liability, there was close cooperation with the KMS Legislative Committee, most ably chaired by Dr. Ted Young; this committee's cogent deliberations on a weekly basis and its ongoing communication with our membership and Kansas legislators were a major positive force in our program.

I strongly suggest that the Committee on Legislation be raised to commission status.

Also worthy of your profound gratitude has been the continuing work of the KMS Commission on Education, under the strong leadership of Dr. Lew Purinton. The rapid expansion of programs for continuing medical education within Kansas, the strengthening relationship with the outreach program at our great Medical School, and the emergence of a simple, effective method for documentation of required CME all reflect the dedication of the Commission on Education to the opportunity for continuous learning which is the cornerstone of good medical practice. Their efforts are as a beacon which lights the dark corners in which lurk our detractors and the skeptics who preach the flawed message that physicians cannot mount a meaningful program of CME. The excellent work of this commission in its several areas of endeavor must be even more strongly supported. Liaison wtih the Medical School—especially in the areas of admissions policy, undergraduate preceptor programs, and residency and postgraduate training emphasizing primary care—continuing medical education, and the development with Kansas State Board of Healing Arts of a positive program for relicensure based on demonstrated CME will constitute major emphases in the continuing efforts of this vital commission.

The new, broader definition of civil immunity which the legislature has offered to this Society, its component organizations, hospital medical staffs, and related bodies, such as the KFMC, for the conduct of peer review and professional disciplinary action arising from both internal perception and external complaint presents us with an entirely new challenge. We must accelerate the development of a Judicial Council which might consist at first of responsible senior members of the Society, who would be charged to develop and present to you a plan which would meet the needs of the Society as a whole for uniformity of due process to you at both the local and state levels, open more accessible doors for legitimate grievances, and relate the activities of the organized medical profession in a responsible way to those of the Kansas State Board of Healing Arts. The Board has acquired broad new powers in the legislative session just past. We must see that they are used with

wisdom and prudence. The pursuit of this goal is in the interest of both the profession and the public.

It is absolutely essential to an effort in this direction that an equitable balance of representation among the several branches of the "healing arts" be restored on the membership of the Kansas State Board of Healing Arts. It is a fact that the present composition of the Board—which now contains a minority of doctors of medicine—provides representation for chiropractors at a ratio nearly five times that representing the physician! This intolerable situation was high-lighted in the past legislative session by the graceless misrepresentation of Board positions on proposals which would expand chiropractic privileges by a chiropractor who was then President of the Board. I, for one, cannot tolerate the fact that practitioners without the medical or scientific background on which to base judgment are now vested with the authority to decide the competency of a physician.

The Kansas Medical Society must take the initiative in legislative and regulatory areas to rationalize programs in the areas of preventive health care, family planning, emergency medical services, and a host of tertiary and special areas of medical care. A deliberate look around the smokescreen of rhetoric at what is actually happening and what is still needed to improve accessibility to medical care in the rural areas of Kansas is essential.

Monitoring of the implementation of federal health planning legislation and a continuing press for physician input into this program at the state level remains vital if it is not to become simply an instrument of power for the bureaucracy and the toy of those whose knowledge of good medical care is limited to gross statistics and non-professional personal or political bias. The impact of HSA geography on our Medical School is yet to be felt, but it is difficult to be optimistic. In all of this activity, we have developed a most often warm friend—and occasional friendly adversary—the Kansas Hospital Association. The support of the KHA has been vital in our legislative initiatives. We have many more goals and problems in common than we do at odds. This friendship needs nurture. I urge strong conscious and ongoing support for this area of concern through a new Commission on Medical Resources, Services, and Planning.

During this past year, we have been assaulted as a profession by federal bureaucratic legal attack on relative value schedules, including that of the Kansas Medical Society. Though imperfect and not unanimously acceptable, the RVS nevertheless did address a very real need in the socioeconomics of medical practice. Absent its rationalizing influence, it is even more essential that we push for broader liaison and understanding with both voluntary and governmental third parties. This last year we witnessed an abortive attempt by the Secretary of Social and Rehabilitation Services to eliminate from Kansas law any requirement on him that he pay for Title XIX beneficiary medical services at a reasonable fee level. The need for an expanding nomenclature to express the rapid change in medical practice is constantly with us. Broadened liaison with BC-BS, the voluntary insurance industry, and the federal insurance mechanism is sorely needed. All of those matters having especially to do with third parties, and the nomenclature of medical practice should be brought together under a single Commission on Medical Insurance Plans.

Our experience has taught us that no matter how right we believe ourselves to be, the public often does not understand—and more frequently does not even know—of our position on major issues. No small portion of our success with the legislature in the current session had to do with a rising conviction of the correctness of our case impressed upon the public by the tireless and quietly effective efforts of our public affairs consultant, George Trombold, of the Kansas Council for Health Legislation, and our public information and media consultants, Higdon and Sullivan, Inc., of Wichita. The enormous talent for organization of information displayed by Dr. Jim Loeffler in working with these consultants and his ability to put this information across to any audience leads me to recommend that we employ his boundless energies in the organization of a Commission on Professional Relations and Public Information, which would deal not only in the areas just mentioned, but also in much broader avenues of exchange with our fellow health professionals, including especially our colleagues in the nursing profession, and pharmacy.

Education in nursing in Kansas is on the brink of major reorganization. The aspiration of nurses for a broader, more professional, independent, and complementary role in health care must be recognized as both genuine and laudable. In the absence of our sincere interest, help, and advice, a segment of the nursing profession might well go off down the wrong path and identify itself in the role of a surrogate physician. Most nurses do not want that role at all. I personally believe there is an almost limitless area of necessary and constructive effort in patient care and health education which is the legitimate territorial prerogative of the professional nurse. Unfortunately, much of this area is now occupied by confusion, misunderstanding, and newly created classes of individuals who might not even exist had physicians and nurses approached the problem together in a more rational manner 10-15 years ago.

It is also imperative that we deal in a straightforward manner with the aspirations of our friends and col-

leagues, the dispensing pharmacists. In the legislative session just past, serious consideration was given to two bills which would, in effect, enforce generic prescribing on Kansas physicians. Our opposition was based on our belief that both bills reflected the irrational assumption that bioequivalence between different brands was a fact in the absence of proof to the contrary. Neither bill contained provisions which would in any way insure either lower cost or improved drug quality for patients. For the physician, there was the very real risk of an added burden of liability through no fault of any kind on his part.

Special thanks and attention are due those who work so hard for us every day in our practice, the Kansas Medical Assistants Society. Professionalism within this group is growing rapidly, and we need to support it actively. The Executive Staff of KMS has under development a significant new program to bring help to medical assistants in the physicians' offices where they work.

I would also believe it to be a charge of the Commission on Professional Relations and Public Information to be expert in dealing with the various agencies which conduct and issue surveys and projections of health manpower. In this function, a close interrelationship with the Commission on Medical Resources, Services, and Planning would be essential.

Because the relationship between the physician ophthalmologist and the optometrist will soon become a matter of public and legislative concern—and very likely one major testing ground for establishment of the territorial prerogatives of the physician vis-a-vis his nonphysician colleagues in other health-related professions, I suggest that the very active MD-OD Committee work within the framework of the Commission on Professional Relations and Public Information.

The Commission on Society Organization and the Staff have begun work on codification of KMS policy and a study of the internal consistency of our bylaw structure. The needs of the Kansas Medical Society in terms of a high quality professional staff are altogether obvious to each of us. If we are to retain the outstanding staff we now have, we must build into our structure a program of reimbursement and benefits which will both attract and hold the kind of people we need to do the things you have come to expect of your Kansas Medical Society. Significant increases in salary for our Executive Director and his two able Executive Assistants have been recommended to and approved by the Council, which has the final responsibility in these matters. Within the next two years, a dues increase will doubtless be necessary so that the KMS can sustain an ever broadening scope of services to its members. I strongly urge that bylaw changes be made to designate the Constitutional Secretary as the working chairman of the Commission on Society Organization.

I also believe that a permanent Finance Committee—possibly to consist of the Treasurer (as Chairman), Constitutional Secretary, President-Elect, and President (ex officio)—should be mandated in the By-laws of the Kansas Medical Society.

It is often said that behind every accomplishment there is a woman of vision and stature. We have been doubly fortunate this year, because the insights that Anita Yoder has gained in living with your next president have made her—and the organization she has led in such an exemplary fashion—a tremendous asset in every endeavor the Kansas Medical Society has undertaken. That simple statement can only scratch the surface of my deep admiration and gratitude for all the many tasks our wonderful ladies in the Auxiliary have undertaken and carried forward so well. In her message to you, Mrs. Yoder will paint in some of the details. I know that your admiration will be as great as my own!

Next year and in the years after that, the individual physician and the organizations which represent him—this Society, in particular—will face challenges which will make the past year pale by comparison. Because of the snail-like pace with which it has developed, most of us have almost forgotten what the letters PSRO stand for. Some of us have also forgotten that we are the parents of a very fine organization, the Kansas Foundation for Medical Care, which will soon—we hope—be awarded conditional status as a statewide PSRO for Kansas. Nearly half of the membership of the KMS is enrolled in the KFMC. I urge the rest of you to consider the benefits of enrollment and representation. The avowed purpose of the KFMC is to provide the peer review functions which federal law requires under the control of conscientious practicing physicians, whose first obligation will be to maintain the standard of quality in medical care to which we all subscribe.

I have not said much about the onslaught of federal legislation which has profound potential to affect the everyday practice of medicine in Kansas. Just to vent my feelings on the mangled tangle of enacted legislation and legislative proposals before the Congress and the flood of regulations rising out of the federal bureaucracy would take some hours. Doubtless some of it is good. I am equally certain that no one has taken the time to put it all together in an understandable outline, in part because so much of it is not understandable at all, but also because it would probably reveal that the dreaded specter of national health insurance is buried in our dust a long ways back down the track. What we have now may well be so much worse that a reorganization under a national health insurance scheme might

even come as a breath of fresh air! It might also have a peculiar kind of adverse economic impact, because it would probably put out of business to a very great extent that large, hydra-headed dracula, the "health-care crisis" industry, a Coxey's Army of self-styled experts who have plowed up gold in the fields around the "cottage" in which the earnest physician industriously practices his profession—or tries to—when the noise of gnashing teeth and beaten breasts can be muffled out.

The new utilization review regulations just issued for comment by HEW may yet cast the AMA's earlier legal victory in a pyrrhic firelight. Even more disturbing is the near-inexorable movement of the political process toward total control of the selection, education, and practice assignment—both geographic and specialty—of physicians. I urge you to keep up with the news in your own self-interest. Your outstanding Executive Staff has tentative plans to add yet another dimension to the information you receive, *i.e.*, a periodic update on the status of federal legislation sharply focused on the practical implications for Kansas physicians and patients, so that you may react to your Congressional representatives on the issues. The experience gained this year in analyzing the activity of the Kansas Legislature gives us some confidence that this can be accomplished in a timely and useful manner under the leadership of Dr. Tom Gray.

Since this is an election year, I believe it not unseemly for your outgoing president to implore you to exercise not only your individual responsibility as a citizen to vote your conscience, but also to work for the good of sound medical practice, and support those candidates who seem at least to know what we are talking about. Though Republicans gave us most support in our program this year, friends of medicine sit on both sides of the aisle in our State Legislature and in Congress. The same is true of those who pay little or no attention to us. KaMPAC and its national counterpart, AMPAC, do a far better job of representing the legitimate interests of physicians and their patients in the political arena than most of us realize. The KMS also hopes to use Mr. Trombold's wide experience to help physicians better understand and properly use our political system.

As President of the Kansas Medical Society, my greatest privilege and pleasure has been the opportunity to come to know many of you whom I might otherwise have only met briefly or not at all. As one neither native-born nor Kansas educated, I have discovered in going about our great state a warmth, a pride, a quality of person, a professional competence, and a zealous interest in patients among Kansas physicians which is real, sincere, and hearty. Over and over again, I have recognized that your foremost concern is to sustain an atmosphere in which you can do what you honestly believe is right for your patients, regardless of some disadvantages to you personally. That, and that alone, is sufficient to make the long hours, the short sleep, the anxieties, the frustrations, and the occasional burn by angry constituents and former friends well worth it. The privilege of this office cannot be defined in mere words. It is to be cherished. The only regret is that so few among the many who are well qualified to serve in it will be able to do so. Since the job has grown in its demands, the time could very well soon arrive when a solo or small group practitioner simply cannot afford to accept the honor of this job and its substantial responsibilities without unreasonable sacrifices by himself, his family, or his associates. Since your next president and the two succeeding ones you may have already elected, as well as the four exceptional men nominated for second vice-president, are all in solo or small group practice, I could not escape the responsibility of recommending to this Council on your behalf that the salary of the President of the Kansas Medical Society be raised from its present level of $6,000.00 per year to $18,000.00 per year, beginning with the term of the dedicated physician, Emerson Yoder, who will succeed me. When one recognizes the many hours that Dr. Yoder has already devoted to the Kansas Medical Society, including three active years on the Executive Committee, my recommendation, which the Council unanimously approved three weeks ago, seems little enough.

And so, I step down with mixed feelings, certain that no honor that comes to me will ever be so treasured as the confidence you placed in me this past year, but at the same time, disappointed in myself that this valedictory has needed to be a litany of tasks very largely yet to be accomplished.—*Si Non Nitor Obcaecare, Tunc Cum Stercus Taurii Illudere!*

God bless you all!

The Kansas Foundation for Medical Care, Francis T. Collins, M.D., President

The Kansas Foundation for Medical Care was incorporated in February 1972, to:

A) Serve as the peer review mechanism for the Kansas Medical Society;

B) Provide a mechanism to enable Kansas physicians to implement PSRO in Kansas if they so desired.

PSRO was mandated by P.L. 92-603, passed by Congress in November 1972. The Kansas Foundation for Medical Care has over 1,200 M.D. and D.O. members in Kansas. A planning PSRO contract was granted the KFMC in June 1974. The mandate of the planning contract was to develop a plan for implementation of PSRO in Kansas.

Actions of the KFMC to date include:

February, 1975—Submitted a plan for conditional

PSRO designation to BQA (Bureau of Quality Assurance, DHEW).

June, 1975—Received comments on changes necessary in plan from BQA.

September, 1975—Resubmitted plan with 50 pages of additions/changes.

March, 1976—Received additional comments from BQA.

During all this time, there were many committee meetings, Board meetings, Executive Committee meetings, and many meetings with other interested groups who will be involved with PSRO in the future. There have been many meetings of the Peer Review Committee under the able leadership of Dr. Ed Ryan, of Emporia.

Future plans and timetable include:

July 1976—Final resubmission of Conditional PSRO Plan.

August-Sept. 1976—Negotiation with BQA on the Conditional PSRO Contract.

Oct.-Nov. 1976—Begin operation as Conditional PSRO for Kansas.

We have been assured that the Kansas Foundation will be granted conditional status by October 1, 1976.

The PSRO program has evolved very slowly over the past two years. There are several reasons for this slow growth, but the major factors have been a lack of funding at the federal level, and a certain degree of political infighting between the different bureaus and agencies of HEW about who is really going to be the major controlling influence over PSRO programs. The funding picture has brightened somewhat over the past few months, but there are still some problems in coordinating the program at the federal level.

KFMC is still a viable and potentially very important organization in the scheme of health care planning in Kansas. The importance and potential is dependent in a large degree upon the individual commitment of Kansas physicians to the goals of the KFMC.

Kansas has been declared a single PSRO area by HEW. The designated PSRO agency will be charged with the basic functions of PSRO—namely:

A. Monitoring acute inpatient hospital care review

B. Admission Certification

C. Continued stay review with concurrent medical record review

D. Medical care evaluation studies

E. An appeals process

F. An education process

KFMC is the only physician organization that provides opportunity for Kansas physicians as a combined group to have the opportunity to try to maintain the concept of quality supervision as well as trying to guide the cost controls insisted upon by the federal government.

You are aware that Kansas has been divided by the health service area HSA boundaries. Our medical school and a great many of our Kansas physicians have been separated from the rest of the state for the purposes of health planning. In spite of this action, since Kansas is a single PSRO region, the physicians of Kansas have the opportunity to work together in an attempt to maintain quality control.

Contrary to the belief of many, PSRO will not go away. Every major piece of federal health legislation contains a provision for utilizing PSROs. The future looks to long term care review, ambulatory care review, drug review, and others. It is the intent of the physicians of the KFMC, that the interests of the Kansas health care delivery system remain paramount in the operation of PSRO in this state. This can be accomplished, in great part, by mutual cooperation among the members of the Kansas health care delivery team, with the goal of continuing to provide the best health care possible for the citizens of Kansas.

Thank you for the privilege of serving as president of our Foundation. Thank all of you for the courtesy and patience you have extended to me, and for your interest and help in making the Foundation a viable organization. I want to express my thanks and appreciation also for the services of Mr. Jim Agin, as well as the Executive Committee and the Board of Directors for their support and guidance. It is greatly due to their effort and efficiency that the Foundation has achieved the state of planning that we now have. I strongly urge your continued support for the goals of the Kansas Foundation for Medical Care.

SECOND SESSION

The second session of the House of Delegates was called to order by the Speaker, Clair C. Conard, M.D., at 8:30 AM on Wednesday, May 5, 1976, at the Hilton Inn, Salina.

Rules were suspended and Dr. Conard asked Dr. Jack Cooper to read the following resolution, which was adopted unanimously:

MEMORIAL RESOLUTION

Dan L. Berger, M.D.

WHEREAS, Dr. Dan L. Berger has served the interests of organized medicine in a dedicated and unselfish manner over the years; and

WHEREAS, He died while serving as a Delegate to his august body; therefore be it

Resolved, That the Kansas Medical Society prepare and forward to his wife and family a commendation recognizing his dedicated services.

Ballots for the election of officers were distributed and the following results reported:

PRESIDENT-ELECT: John D. Huff, Kansas City
FIRST VICE PRESIDENT: Warren E. Meyer, Wichita
SECOND VICE PRESIDENT: Donald D. Goering, Salina
CONSTITUTIONAL SECRETARY: Phillip A. Godwin, Lawrence
TREASURER: Edward G. Campbell, Emporia
AMA DELEGATE 1977/78: Alex Scott, Junction City
AMA ALTERNATE DELEGATE 1977/78: Kermit G. Wedel, Minneapolis

The House unanimously re-elected Clair C. Conard, Speaker, and M. Robert Knapp, Vice-Speaker.

Curtis C. Drevets, M.D., in behalf of the Medical Society of Sedgwick County, extended a formal invitation to the Kansas Medical Society to hold its 118th Annual Meeting in Wichita. The meeting will be held at the Broadview Hotel, May 1-4, 1977.

As a result of Resolution No. 76-7, Council District 19 was formed.

The following results of Councilor elections were announced:

DISTRICT 2—Robert P. Hudson, Kansas City
DISTRICT 4—George W. Pogson, Pittsburg
DISTRICT 11—Ivan E. Rhodes, Wichita
DISTRICT 13—L. William Halling, Hays
DISTRICT 15—Evan R. Williams, Dodge City
DISTRICT 19—Robert F. Moore, Caney

In discussing the resolutions, it was the intent of the House that all future resolutions which incur expenditure of funds be accompanied by a fiscal note, stating the source of such funds.

Dr. Conard introduced the new president, Emerson D. Yoder, M.D., of Denton.

Dr. Yoder duly installed the Speaker and the Vice-Speaker of the House of Delegates. He then delivered a brief address, after which the House of Delegates adjourned at 12:45 PM.

RESOLUTION NO. 76-1

Continuing Medical Education

WHEREAS, The Kansas Medical Society has adopted a continuing medical education requirement for continued membership; and

WHEREAS, This same requirement has been adopted by the Kansas State Board of Healing Arts for relicensure; therefore be it

Resolved, That the Kansas Medical Society establish a State Scientific Program Committee under the auspices of the Commission on Education for the purpose of planning and developing annual scientific programs worthy of Category I credit; and be it further

Resolved, That this committee work with established organizations presenting Category I credit programs, including the University of Kansas Medical Center and the Wichita Branch, and other organizations accredited for Category I credit.

RESOLUTION NO. 76-2

Notification of CME Requirements

WHEREAS, The Kansas Medical Society now has continuing medical education requirements for membership; and

WHEREAS, The Kansas State Board of Healing Arts now requires evidence of continuing medical education for relicensure; and

WHEREAS, The relicensure requirements are to be identical to the Kansas Medical Society requirement for membership; and

WHEREAS, The Kansas Medical Society membership has a three (3) year reporting period to fulfill these requirements; and

WHEREAS, Some Kansas Medical Society members may be poorly informed on these requirements and need periodic reminders on this important issue; therefore be it

Resolved, That the Commission on Education develop a central data collection source for CME records and information; and be it further

Resolved, That the Kansas Medical Society send notices annually (to include yearly mailing of the CME Record Booklet) to its members, reminding them of these requirements and bringing them up to date on any new changes.

RESOLUTION NO. 76-3

Not adopted.

RESOLUTION NO. 76-4

Not adopted.

RESOLUTION NO. 76-5

Spine Deformity Screening

WHEREAS, Spine deformity, especially adolescent idiopathic scoliosis, is relatively common in children, and because the children are often asymptomatic in the early stages they are often overlooked when preventative treatment can be most effective; and

WHEREAS, It is proposed that universal screening of school children, ages 10 through 13, be performed under the supervision of the school nurse; and

WHEREAS, A definite proposal for this screening has been developed and is attached to this resolution; therefore be it

Resolved, That the Kansas Medical Society endorses and supports a screening program to determine spine deformity in school age children being instituted in the public schools of Kansas, using the criteria that has been developed and is attached as a part of this resolution.

Proposal for Spine Deformity Screening

It is proposed that universal screening of school children ages 10 through 13 be performed by the school nurse or physical education instructor under the school nurse's supervision. The student is observed in three standing positions: posterior upright, forward bending, and lateral upright. Boys are clothed in gym shorts and can be examined in the gymnasium. Girls are examined in gym shorts in their locker room. The examination requires approximately 30 seconds per student.

If any hint of lateral curvature is detected it should be recommended to the parents that the child be examined by the family primary care physician licensed to practice medicine and surgery. It is recommended that this examination include a standing 14 x 17-inch AP x-ray of the spine. Curves are measured by the Cobb technique (details available upon request). If the examiner is not comfortable with the measurement technique, mail consultation may be obtained.

Patients with curves less than 15-20 degrees should be alerted to the possibility of progression. Parents may be taught to examine the patient in the forward bending position at three-month intervals and return if they suspect progression. If the curvature is greater than 15-20 degrees, consultation with an orthopedic surgeon is recommended.

If the thoracic kyphosis (round back) or lumbar lordosis (sway back) is increased, then a standing 14 x 17-inch lateral x-ray of the thoracic or lumbar spine should be obtained. If there appears to be excessive kyphosis or lordosis, consultation is also recommended.

A school screening program has been in effect in Delaware for several years and reportedly has been successful in nearly eliminating the need for surgical treatment of idiopathic scoliosis. During the past year, 210,000 (75%) of vulnerable school age children were screened in Minnesota, with approximately 7 per cent being referred to the primary care physician licensed to practice medicine and surgery. Overall, 0.1 per cent of these were found to require treatment. In Kansas, 11,924 vulnerable school age children were screened last year by school nurses, and 3.8 per cent were referred to the primary care physician licensed to practice medicine and surgery.

Universal scoliosis screening of school children, ages 10 through 13, with followup as recommended, should nearly eliminate the need for surgical treatment of idiopathic scoliosis. An added benefit is that other less common spine deformities may be detected at a more optimum time for treatment.

RESOLUTION NO. 76-6

AMA-CPT

WHEREAS, The Kansas Medical Society has accepted and adopted as its official terminology the latest *Current Procedural Terminology* of the AMA for use by physicians of Kansas; therefore be it

Resolved, That the Kansas Medical Society urge its members to utilize the five-digit code contained in the AMA-CPT for all third-party claims; and be it further

Resolved, That the Council conduct an educational program concerning the implementation and distribution of the AMA-CPT; and be it further

Resolved, That the Kansas Medical Society again request all fiscal agents to implement this system as soon as possible.

RESOLUTION NO. 76-7

Formation of New Council District

Resolved, That Section 8.4 *et seq.* of the By-Laws be amended by the addition of a new Council district comprised of the following counties: Allen, Chautauqua, Elk, Montgomery, Neosho, Wilson, and Woodson.

RESOLUTION NO. 76-8

Special Assessments

Resolved, That the By-Laws be changed by adding in Section 2.3: "Special assessments may be levied as need-

d. Request for special assessments will be referred to he Council for study, whereupon the Council shall nake a recommendation to the House of Delegates for inal action. All special assessments are mandatory upon ll full dues paying members unless otherwise specified."

RESOLUTION NO. 76-9

Nominations

Resolved, That the By-Laws be amended by adding in Section 6.6, after the phrase "offices of president-elect, irst vice president, secretary, treasurer," the words, 'speaker of the House of Delegates, vice-speaker of the House of Delegates."

RESOLUTION NO. 76-10

Not adopted. Referred to the Committee on Constiution and By-Laws.

Elective Offices

WHEREAS, The Kansas Medical Society needs involvement by as many members as is possible in the responsible positions in the Society; and

WHEREAS, It would seem appropriate that a member an assume only one position adequately; and

WHEREAS, The House of Delegates of the Kansas Medical Society is an integral part of the Kansas Medical Society; therefore be it

Resolved, That a member of the Kansas Medical Society can hold only one elective office in the Kansas Medical Society and/or the House of Delegates of the Kansas Medical Society.

RESOLUTION NO. 76-11

Salary of President

Resolved, That the salary of the President of the Kansas Medical Society be increased to $18,000 per year plus expenses.

RESOLUTION NO. 76-12

Not adopted. Referred to the Executive Committee.

Reapportionment of House of Delegates

WHEREAS, The present composition of the House of Delegates provides disproportionate representation to the several disciplines of this society; and

WHEREAS, Granting permanent membership in the House of Delegates to past presidents of the Society adds materially to the disproportion; and

WHEREAS, The concept of "one man, one vote" is almost universally accepted in parliamentary bodies; therefore be it

Resolved, That delegates representing specialty sections be deleted from the voting membership of the House; and be it further

Resolved, That automatic membership in the House be granted only to those past presidents of the five preceding years; and be it further

Resolved, That elected delegates from all component societies be chosen by the same criteria, *i.e.,* one delegate for each twenty (20) members or major fraction, with one delegate providing minimally from each component society; and be it further

Resolved, That the By-laws be amended as follows:

5.1 Composition

The House of Delegates should be composed of delegates selected by the component societies, by the elected councilors and in their absence, their alternates, by the past presidents of the immediate past five years, and the elected officers of this Society. Members of the Society may attend plenary sessions and others may attend upon invitation of the Speaker.

5.21 Component Societies

Each component society having made its annual report and paid its assessments as provided in this Constitution and By-laws shall elect one (1) delegate and one (1) alternate to the House of Delegates for each twenty (20) members and major fraction thereof. Each component society shall be entitled to at least one (1) delegate and one (1) alternate.

5.22 (Delete)

5.23 Delete the Words, "and specialty section," in line 1.

RESOLUTION NO. 76-13

Not adopted.

RESOLUTION NO. 76-14

House of Delegates Quorum

Resolved, That section 5.45 of the By-laws be amended to read: Thirty-five per cent (35%) of constitutionally provided delegates or their respective alternates shall constitute a quorum of the House of Delegates at any regular or special meeting.

RESOLUTION NO. 76-15

Chiropractic

Resolved, That the Kansas Medical Society study possible chiropractic misuse of x-rays; and be it further

Resolved, That the Kansas Medical Society reaffirm its opposition to any expansion of the scope of chiropractic privileges.

RESOLUTION NO. 76-16

Medical Records

Resolved, That the Kansas Medical Society secure a legal opinion to determine what parts of the medical record must be forwarded to the patient or his attorney upon request; and be it further

Resolved, That this opinion be sent to all members of the Kansas Medical Society, and a report made to the 1976 Fall House of Delegates meeting.

RESOLUTION NO. 76-17

Brand Exchange

Resolved, That the Pharmacy Liaison Committee be directed to meet with representatives of the Kansas Pharmaceutical Association to examine the proposed brand exchange program advocated by KPA; and be it further

Resolved, That the Pharmacy Liaison Committee submit a report to the 1976 Interim House of Delegates on their findings.

RESOLUTION NO. 76-18

Not adopted.

RESOLUTION NO. 76-19

Not adopted. Referred to the Executive Committee.

Special Fund for Professional Liability Action

WHEREAS, The majority of malpractice claims against physicians are without merit and many suits which are filed are frivolous, malicious or otherwise constitute "abuse of process"; and

WHEREAS, The average physician's insurance will not cover the expenses of a countersuit and he may be unable or unwilling to finance such action by himself; and

WHEREAS, The real possibility of such action by the physician in such cases will be a deterrent to such action; therefore be it

Resolved, That the Kansas Medical Society assess its membership $25.00 per member for the purpose of reviewing malpractice claims for frivolous cases that might lead to successful countersuits and to provide legal counseling, friend of the court and other appropriate actions to such members of the society that may solicit such assistance for meritorious actions; and be it further

Resolved, That guidelines for implementation of this resolution be developed and reported to the 1976 Fall House of Delegates proceedings and funds be managed by the Executive Committee.

RESOLUTION NO. 76-20

Not adopted.

RESOLUTION NO. 76-21

Special Assessment

Resolved, That each active, full-dues paying member of the Kansas Medical Society be assessed $50 to support the continuation of professional liability studies and legislative initiatives.

RESOLUTION NO. 76-22

Not adopted.

RESOLUTION NO. 76-23

P.L. 93-641

WHEREAS, P.L. 93-641 fixes Health Systems Agencies (HSA) as a planning body for health care systems; therefore be it

Resolved, That the Kansas Medical Society is opposed to P.L. 93-641; and be it further

Resolved, That the Kansas Medical Society inform all physicians of the provisions of this law; and be it further

Resolved, That the Kansas Medical Society request the Governor of Kansas to act on behalf of Kansas citizens to achieve repeal of this act.

RESOLUTION NO. 76-24

P.L. 93-641

WHEREAS, P.L. 93-641 may drastically affect the medical care for our patients while in a health care institution; and

WHEREAS, The formation of the components of P.L. 93-641 is under active organization; and

WHEREAS, The physicians in Kansas have a deep commitment for the care of their patients and represent them in the health care delivery system; therefore be it

Resolved, That the Kansas Medical Society and its members shall continue to participate in the best interests of the people of Kansas by monitoring and constructively modifying P.L. 93-641.

RESOLUTION NO. 76-25

Healing Arts Board

Resolved, That the Legislative Committee of the Kansas Medical Society be directed to prepare a legislative recommendation that would reorganize the Kansas State Board of Healing Arts to reflect proportionate representation of the four disciplines licensed by the Board; and be it further

Resolved, That the Legislative Committee report its recommendations to the 1976 Fall House of Delegates.

RESOLUTION NO. 76-26

Primary Care

WHEREAS, There appears to be confusion as to the meaning of "primary care," "primary care physician," "family practitioner," and "general practitioner"; therefore be it

Resolved, That primary care is a function, not a discipline, provided to a greater or lesser extent by all physicians licensed to practice medicine and surgery; and be it further

Resolved, That the family physician who is licensed to practice medicine and surgery in Kansas is the physician primarily concerned with total family care; and be it further

Resolved, That copies of this resolution be sent to members of the Kansas Legislature.

RESOLUTION NO. 76-27

Not adopted.

RESOLUTION NO. 76-28

Rules of Order

WHEREAS, There is no publication entitled "Sturges' Rules of Order, Revised"; and

WHEREAS, This Society should have no doubt as to what procedural rules guide it; therefore be it

Resolved, That 12.0 (Rules of Order) be amended to read: "Deliberations of this Society and its subsidiary Council, Sections, Commissions and Committees shall be governed by these By-laws, and when not otherwise specified by the provisions of Sturges' Standard Code of Parliamentary Procedure."

RESOLUTION NO. 76-29

Constitution and By-laws

Resolved, That the Committee on Constitution and By-laws make a detailed study of the By-laws and prepare a report containing any possible recommendations for revision of the By-laws to be submitted to the 1977 Annual Session of the House of Delegates.

RESOLUTION NO. 76-30

Not adopted.

RESOLUTION NO. 76-31

P.L. 93-641

Resolved, That the Kansas Medical Society reaffirm its commitment to positive and constructive action to provide the best possible health care to the people of Kansas, and instruct its standing committees and commissions to continue in their efforts in dealing with the following problems:

1. Health care costs;
2. Self-regulation of the health professions;
3. Public responsibility regarding health care;
4. Distribution of health care.

RESOLUTION NO. 76-32

Locum Tenens for Resident Physicians

WHEREAS, There is now no organized fashion whereby practicing physicians in Kansas can arrange for a resident physician to do *locum tenens* on either a regular or an occasional basis; and

WHEREAS, Such a clearing house would be beneficial in getting physicians in residency training out into the

state for short segments of free time; and

WHEREAS, This may act as a form of outreach; therefore be it

Resolved, That, through the Kansas Medical Society Commission on Education, a committee be established to coordinate short and long range *locum tenens* arrangements between all residency programs in the state and state physicians requesting *locum tenens* arrangements; and be it further

Resolved, That this committee, in close working cooperation with the Kansas Medical Society Executive Office act as a clearing house for all *locum tenens* requests within the state, in cooperation with the residency program directors in the state of Kansas, for approval, arrangements, and scheduling of *locum tenens.*

RESOLUTION NO. 76-33

Premedical Student Outreach Exposure

WHEREAS, It is the intent of both KUMC and KMS to get physicians out into the state; and

WHEREAS, It is generally believed that such accomplishment could be greatly enhanced if started at the student level; therefore be it

Resolved, That premedical students selected for admission to the University of Kansas School of Medicine be invited to apply for participation in an orientation program as an observer in a Kansas community setting under the guidance of a licensed family physician; and be it further

Resolved, That the experience may include the opportunity to observe the role of health agencies which support the health care delivery system in a given area; and be it further

Resolved, That such students will receive an orientation by practicing physicians and the University of Kansas School of Medicine faculty at appropriate geographic sites; and be it further

Resolved, That the Kansas Medical Society endorse and encourage its membership to participate in the program of early exposure of students to family practice settings in non-urban areas of Kansas; and be it further

Resolved, That this resolution be sent to the University of Kansas School of Medicine administration and faculty.

RESOLUTION NO. 76-34

Integrated Family Practice Residency Program in Kansas

WHEREAS, The Kansas Medical Society recognizes the need for additional openings in family practice training programs in the state of Kansas; and

WHEREAS, An integrated community based training program may be helpful in solving this problem; therefore be it

Resolved, That the Kansas Medical Society support the concept of family practice integrated community based training programs; and be it further

Resolved, That a copy of this resolution be sent to the Chancellor of the University of Kansas and the Governor of the State of Kansas.

RESOLUTION NO. 76-35

Optometric Use of Drugs

Resolved, That the Kansas Medical Society support Resolution 169 of the American Medical Association; and be it further

Resolved, That the MD-OD Committee be urged to continue study of the issue of optometric use of drugs.

RESOLUTION NO. 76-36

National Health Education Acts

Resolved, That the Kansas Medical Society express its opposition to Senate Bill 1466; and be it further

Resolved, That copies of this resolution be sent to the Kansas Congressional delegation.

Adopted by Johnson County Medical Society

WHEREAS, S. 1466 sponsored by Senator Edward M. Kennedy and entitled *National Disease Control and Consumer Health Education Act of 1975* passed the United States Senate last summer; and

WHEREAS, this bill was accompanied by a report, Senate Report 94-330; and

WHEREAS, these were referred to the House Committee on Interstate and Foreign Commerce, August 1, 1975, the Subcommittee on Health of which Committee has been holding hearings; and

WHEREAS, opposition testimony was presented to the Subcommittee on Health by Dr. Thomas G. Dorrity of Memphis, Tennessee, on November 13, 1975; and

WHEREAS, excerpts from the testimony of Dr. Dorrity, who is both a surgeon and a lawyer, are available to us, as is a copy of S. 1466, Senate Report 94-330 and Dr. Dorrity's full testimony; and

WHEREAS, excerpts from Dr. Dorrity's evaluation of S. 1466 and Senate Report 94-330 indicate that S. 1466, if passed would:

1. Establish HEW as the arbiter of individual be-

navior, deciding how people should behave, and force changes in their behavior to fit bureaucratic ideas;

2. Arm HEW with authority to use health education as a propaganda vehicle to undermine private, free-choice medicine to help "reorganize and restructure our health services delivery system . . . and financing mechanisms;"

3. Empower HEW to use health education as a weapon to attack private health insurance, as a means of promoting compulsory politicalized medicine;

4. Direct HEW to pressure medical, dental, and nursing schools to include government-approved education and promotion courses as part of their curricula;

5. Confer on HEW the power to intimidate TV networks into carrying government-prescribed health programs;

6. Authorize HEW to employ censure by publicity, "non-government sanctions and all the normal and political power it commands" to compel the advertising industry (including radio, TV, newspapers, and magazines) to eliminate material from advertising deemed "by objective professional opinion" to be "injurious to the nation's health";

7. Instruct HEW to cut off federal grants and Medicare/Medicaid funds to hospitals unless they force-feed government devised health education to all inpatients and outpatients;

8. Grant HEW, in the name of health education, the extraordinary power to intrude into federal programs in agriculture, housing, transportation and energy.

and

WHEREAS, This direct quote from Senate Report 94-330 gives the full implication of the issues at stake:

> Direct governmental efforts to modify citizens' behavior, mass media content, and school curricula in ways that are scientifically sound, effective, and culturally acceptable, represents extremely difficult issues. On the one hand, the current state of the art of health education is probably inadequate to deliver effective and reliable results in the public interest from such interventions. On the other hand, to be effective, such actions by a governmental agency may conflict with constitutionally guaranteed private freedoms;

and

WHEREAS, Even if such constitutionally guaranteed freedoms were not involved, the cost would be inestimable and totally unwarranted in our country at a time when we are faced with unprecedented federal debts, financial difficulties, and devaluation of our dollar; and

WHEREAS, Bureaucratic power would be increased beyond sufferance; therefore be it

Resolved, That the Johnson County Medical Society in regular session March 23, 1976, expresses its opposition to S. 1466 and any similar National Health Education Act; and be it further

Resolved, That copies of this resolution be sent to all members of House Committee on Interstate and Foreign Commerce and to all Kansans in the Congress; and be it further

Resolved, That each Kansas candidate for the United States House of Representatives be asked to make his position known on these measures; and be it further

Resolved, That the Johnson County delegates to the House of Delegates of the Kansas Medical Society be instructed to support a similar resolution in that House of Delegates.

RESOLUTION NO. 76-37

Drug Package Inserts

Resolved, That the Kansas Medical Society express its opposition to Senate Bill 2697; and be it further

Resolved, That copies of this resolution be sent to the Kansas Congressional delegation.

Adopted by Johnson County Medical Society

WHEREAS, Sections 301 and 308 of Kennedy Bill S. 2697 would, if passed, give the Commissioner of FDA the power to fine a doctor $10,000 for prescribing a drug for an indication not listed on the package insert, with each day of violation to be a separate offense with separate fine; and

WHEREAS, S. 2697 would give FDA authority to examine office and hospital records in search of violators; and

WHEREAS, Section 405 of the Bill would enable the FDA Commissioner to limit authorized use of new drugs to some classes of physicians and not others, thereby creating unequal standards of health care available to patients of some doctors as compared to others; and

WHEREAS, S. 2697 would elevate drug package inserts to inflexible legal instruments, dictating how physicians must, without exception, use each drug, depriving the patient of his doctor's judgment for his individual case, restricting progress in medical knowledge, freezing medical practice into today's norms by precluding tomorrow's changes; and

WHEREAS, The cautions and contraindications as stated within said package inserts have in many instances been controversial, sometimes based upon anecdotal rather than statistical experience, often written by non-clinical experts ignoring years of clinical experience by practitioners who treat patients; and

WHEREAS, Even relative contraindications listed in package inserts could cause these drugs not to be used by doctors who fear civil lawsuits as well as federal prosecution, thereby depriving patients of possible benefit; therefore be it

Resolved, That the Johnson County Medical Society, in regular session March 23, 1976, strongly opposes passage of Kennedy Bill S. 2697, which would fine a doctor $10,000 for each day of prescribing a drug for an indication not listed on its package insert; and be it further

Resolved, That the drug package insert should not be made a legal document for punishment of physicians by federal agencies or civil courts, but should remain an unofficial guide for medical practitioners in their own evaluation of risk vs. benefit in individual cases; and be it further

Resolved, That any proposed legislation which in any way would rigidly restrain use of good judgment by a licensed physician in carrying out duties to individual patients, or would propose search of a patient's hospital or office records by governmental agencies, should be condemned by patients, physicians, courts, and the Congress; and be it further

Resolved, That this Resolution be submitted to the Kansas Medical Society, to the Kansas members of Congress, and to members of appropriate Congressional Committees; and be it further

Resolved, That the Johnson County delegates to the House of Delegates of the Kansas Medical Society be instructed to support this resolution in that House of Delegates.

RESOLUTION NO. 76-38

Swine Influenza Vaccination Program

WHEREAS, A Swine influenza virus (A/New Jersey 8/75/Hsw1N1) was isolated from 5 recruits at Fort Dix, New Jersey; and

WHEREAS, Serarcheological evidence (Sera of people from 1919 have high titers to swine hemagglutinins) appears to link the Swine influenza virus with the influenza epidemic of 1918; and

WHEREAS, The Congress of the United States appropriated One Hundred Thirty-Five Million Dollars ($135,000,000.00) to provide vaccine and support a program to vaccinate as many people as possible against Swine influenza; and

WHEREAS, a system exists (state and local health departments) to implement this program; and

WHEREAS, This system will need medical support (1-10% reactions, or 2,000-20,000 reactions in the state); therefore be it

Resolved, That the Kansas Medical Society pledges its support and cooperation in the immunization efforts which are to be related to this year's push on influenza; and be it further

Resolved, That the Kansas Medical Society encourage local component societies to work with local health departments in this program; and be it further

Resolved, That copies of this resolution be forwarded to the Governor of the State of Kansas and to the Department of Health and Environment.

RESOLUTION NO. 76-39

Not adopted. Referred to Council.

Adverse Publicity

Resolved, That the Kansas Medical Society review adverse news stories concerning the medical profession and prepare suitable responses where appropriate.

RESOLUTION NO. 76-40

Saline County Medical Society

Resolved, That the Kansas Medical Society hereby expresses its gratitude and deep appreciation to the membership of the Saline County Medical Society and Auxiliary, and especially to Dr. Raymond S. Freeman, President; Drs. John C. Mitchell and Harold R. Smith, Convention Co-Chairmen; Dr. Wendell K. Nickell, Program Chairman, for exceptional hospitality which has made this, the 117th Annual Meeting of the Kansas Medical Society, a truly memorable event.

118th Annual Meeting

THE KANSAS MEDICAL SOCIETY

May 1-4, 1977

Broadview Hotel, Wichita

Council Meeting

Report of Meeting Held April 11, 1976

A meeting of the Council was held at 1:30 PM on Sunday, April 11, 1976, at the Highland Manor Hotel, Great Bend. Dr. John W. Travis, President, called the meeting to order.

Present were the following officers and councilors: Drs. Anol W. Beahm, John N. Blank, Kenneth M. Boese, Edward G. Campbell, Vernon W. Filley, Herbert Fransen, Phillip A. Godwin, William L. Halling, Charles T. Hinshaw, Jr., John D. Huff, Haven C. Krueger, Wendale E. McAllaster, Warren E. Meyer, Floyd L. Smith, Jr., John W. Travis, Kermit G. Wedel, James W. Wiggs, and Emerson D. Yoder. Also present was Mr. Jerry Slaughter.

In reviewing the resolutions which are to be presented to the House of Delegates in May, the following recommendations were adopted:

Resolution No. 76-6: Recommended that an educational program be developed to acquaint Kansas physicians with utilization of the AMA-CPT.

Resolution No. 76-21: Recommended that the House of Delegates adopt this resolution authorizing a $50 assessment on all active, full dues paying members.

Resolution No. 76-25: Recommended that the House of Delegates adopt this resolution relating to a reorganization of the Healing Arts Board.

Resolutions submitted by the Johnson County Medical Society (dealing with the National Health Education Acts and Drug Package Inserts) were discussed, and the Council recommended them for House consideration.

The Council authorized the retainment of Mr. Darb Ratner and Mr. George Trombold.

Dr. Travis announced that a meeting concerning the medical staff relationships with hospital boards of trustees was being sponsored by the Douglas County Medical Society on May 18, 1976. He encouraged attendance.

All prior actions of the Executive Committee were discussed and approved by the Council.

Dr. Travis was authorized by the Council to appoint an ad hoc committee to study the feasibility of a joint KMS-American Association for the History of Medicine meeting. The report of the committee will be reviewed by the Council at its September 1976 meeting.

The recommendations of the Executive Committee for salary increases were studied and approved.

The Council determined that beginning with the 1977 Annual Meeting, the cost of tickets will not be refunded unless the reservations are cancelled at least one week in advance of the event.

The meeting adjourned at 3:30 PM.

Report of Meeting Held May 5, 1976

The council met on Wednesday, May 5, 1976, immediately after the conclusion of the Second Session of the House of Delegates meeting, at the Hilton Inn, Salina. Dr. Emerson D. Yoder, President, called the meeting to order.

Present were: Drs. Lewis G. Allen, Royal A. Barker, Kenneth M. Boese, Richard L. Brownrigg, Thomas P. Butcher, Edward G. Campbell, Francis T. Collins, Clair C. Conard, Vernon W. Filley, Herbert Fransen, Phillip A. Godwin, Donald D. Goering, John D. Huff, M. Robert Knapp, Wendale E. McAllaster, Richard Meidinger, Warren E. Meyer, Robert F. Moore, Richard H. O'Donnell, George W. Pogson, Ivan E. Rhodes, Jay L. Richardson, Alex Scott, Floyd L. Smith, William C. Swisher, Thomas F. Taylor, Max E. Teare, John W. Travis, Roger D. Warren, Kermit G. Wedel, and Emerson D. Yoder.

Also present was Mr. Bud Wright, AMA Representative; Mr. Jerry Slaughter; Mrs. Val Braun; and Mr. Gary Caruthers.

Mr. Wright reported that approximately 80 per cent of the AMA dues paying members had paid the special AMA assessment. He noted that the 1976 AMA membership from Kansas is close to what it was in 1975. In discussing national legislation, Mr. Wright stated that the AMA will be sending out an information sheet called "Health Manpower Alert," which will provide data on the health manpower bill scheduled to be debated on the Senate floor in the near future. The AMA is opposed to control of residency programs, capitalization pay-back features, federal relicensure provisions, and other sections of the bill. Concerning P.L. 93-641, the AMA will join North Carolina in a suit filed against HEW.

November 7, 1976 was selected as the date for the

(Continued on next page)

Kansas Foundation for Medical Care

Expanded Executive Committee and Board of Directors Meeting

A meeting of the Expanded Executive Committee and the Board of Directors of the Kansas Foundation for Medical Care, Inc. was held on Sunday, May 2, 1976, beginning at 7:15 AM at the Hilton Inn, Salina. Dr. Francis T. Collins, President, called the meeting to order, with the following present:

Members of the Expanded Executive Committee: Drs. John N. Blank, Francis T. Collins, Kenneth L. Graham, L. William Halling, Chester M. Lessenden, Ivan E. Rhodes, John W. Travis, and Theodore E. Young.

Members of the Board of Directors: Drs. Francis R. Applegate, Dean T. Collins, Jack Cooper, Vernon W. Filley, Richard M. Glover, George R. Learned, Wayne O. Wallace, and Kermit D. Wedel.

Guests: Drs. John T. Growney, Thomas F. Taylor, and Emerson D. Yoder.

Also present was Mr. James E. Agin.

Dr. Collins read his President's Report, which he proposed to present to the First Session of the House of Delegates of the Kansas Medical Society (the report appears elsewhere in this JOURNAL).

The actions of the Executive Committee of March 7, 1976 were approved.

Bylaw changes recommended by the Bureau of Quality Assurance (BQA) were studied. Changes 1, 2, 4, and 5 were adopted as recommended. There was much discussion of Change 3, because it involved a possible separation of KFMC from the Kansas Medical Society. Such a separation is deemed undesirable, because the Foundation cannot prove to be a successful organization without the cooperation and help of the Kansas Medical Society. The assembly authorized Dr. Graham and Mr. Agin to develop the language for an appropriate bylaw change which would include a provision by which the KMS Council would be requested to nominate members of the Kansas Medical Society to serve on the KFMC Board of Directors.

The Nominating Committee (Ivan E. Rhodes, M.D., Wichita, Chairman) presented the following slate of candidates:

President: Kenneth L. Graham, Leavenworth

Vice-President: L. William Halling, Hays

Secretary: Louis M. Culp, Kansas City, Kansas

Treasurer: Chester M. Lessenden, Topeka

All were elected to the respective offices by unanimous acclamation.

Upon assuming the chair, Dr. Graham paid tribute to Dr. Collins for his long and hard work in developing and refining the framework of the Foundation into a viable organization. As a token of appreciation for loyal services rendered as President of the Kansas Foundation for Medical Care, Inc. for the years 1972 through 1976, Dr. Collins was presented a plaque.

Dr. Graham then stated that he envisions the KFMC as an organization to assist and defend physicians. He encouraged the members to communicate with him and assist him.

The meeting adjourned at 8:40 AM.

Council Meeting

(Continued from page 283)

Fall meeting of the Council, to be held either in Lawrence or Emporia.

Dr. Yoder called for nominations for the 1977 Nominating Committee. In compliance with the By-Laws and on the basis of nominations offered, this committee will consist as follows: Drs. John W. Travis, Chairman; John N. Blank, Jack R. Cooper, Herman W. Hiesterman, and Robert F. Moore.

The Council nominated David E. Gray, M.D. as Editor of THE JOURNAL. Drs. Orville R. Clark and Richard Greer were reappointed to serve on the Editorial Board.

The Council authorized Dr. Yoder to appoint a committee to study an appropriate token of appreciation to the Editor.

A decision was made to retain Mr. George Trombold at $1,500 per month, to be paid by the Professional Liability Fund, through November 1976.

The Executive Committee was authorized to continue contracting with Sullivan-Higdon, Inc. for their services.

The Executive Office will send another billing to those members who have not paid the special assessment for 1975, advising that their membership privileges will be suspended if the mandatory assessment is not paid.

The meeting adjourned at 2:35 PM.

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Month in Washington

The government for the first time has agreed to reimburse hospitals for Medicare on the basis of rates set by a state regulatory commission. The Maryland Health Services Cost Review Commission, one of the most powerful such agencies in the nation, won agreement from Medicare for the Commission's rates to be utilized rather than those set by Medicare.

The state agency's rates take into account bad debts and charity costs, but keep a tight lid and review on hospital charges. Hitherto, Medicare has not allowed bad debts and charity care to be figured as reimbursable cost items for hospitals.

A Medicare official said the government believes the Maryland Commission has a rate-setting approach that encourages hospitals to be cost-conscious. The new Medicare reimbursement will not take effect for a year. Medicaid officials were reported to be considering following suit.

Tests of swine influenza vaccine are starting on humans in preparation for a nationwide immunization campaign. First tests are slated for employees who volunteer at the Food and Drug Administration and the National Institutes of Health. Other human trials are set for the University of Rochester, Baylor College of Medicine, Ft. Ord, California, and Lawry Air Force Base, Ohio. Some 1,000 people are expected to be involved in the first phase of testing.

President Ford urged all Americans "to receive an inoculation against this form of influenza" in signing the legislation that speedily cleared Congress authorizing $135 million for the immunization.

Not resolved was the product liability issue. A spokesman for the Pharmaceutical Manufacturers Association said drug manufacturers are now working with the HEW Department to determine if the liability question can be handled through contracts between HEW and the individual firms.

A major purpose of the early trials is to measure human response to varying doses.

Compromise utilization review regulations meeting many of the legal objections raised by the medical profession have been issued by the Health, Education and Welfare Department.

The original regulations had been blocked successfully in a landmark court case by the American Medical Association as a violation of the rights of physicians and patients by requiring same-day review of hospital admissions and review participation by non-professionals of Medicare and Medicaid patients.

As drafted by HEW after consultation with AMA representatives at the suggestion of the federal courts, the new UR regs place responsibility for adverse review decisions squarely on the shoulders of physician peers and provide for consultation with the admitting physician. In addition, the time for reviewing Medicare-Medicaid admissions was extended to three working days.

HEW proposed a screening system for hospitals under which admissions would be sorted into categories and criteria established by physicians on the hospital staff. Laymen could take part in the initial screening process but would have to refer to physicians questionable cases for further review.

The AMA had stipulated in advance that it would not necessarily be bound by the terms of the new regulations and reversed the right to pursue further court action if it felt the step was warranted. The regulations published in the *Federal Register* state that HEW Secretary David Mathews believes they "largely meet the legitimate concerns of the (American Medical) Association."

The revised regs still provide that review be completed before elective surgery, unless the procedure falls into a category not requiring review, such as danger to the patient or even "pain itself." The actual determination of which procedures are elective is left to the hospital staff.

At the time of initial review a date must be set by the staff. The review procedures for continued stay would be the same as for initial admission.

HEW said the new regs should handle the problem of small and rural hospitals where it is difficult to have available a sufficient number of physicians for review. Further, the current proposals incorporate Medicaid allowances of variances in specific cases for institutions that cannot form a review committee within the time frame.

Said HEW in describing the new regs:

"The medical profession must be relied upon, consistent with program purposes under Medicare and Medicaid, to design and carry out the utilization review functions, this means that physicians should, in large measure, determine which categories of cases should receive in-depth review as distinguished from those for which the prescribed treatment or medical procedure can be presumed necessary without such in-depth review. It also means that a determination of non-necessity should be made only by physicians, and then only after careful consultation with the admitting physician."

The American Medical Association has told Congress that drug labelling for patients with full information about possible dangers could scare many people off the drugs.

"The patient could, out of apprehension and unnecessary fear, and without adequate background to make a valid judgment, refuse to accept the drug for his condition," said Jere W. Annis, M.D., a member of the AMA Board of Trustees. Dr. Annis told the House Commerce Health Subcommittee, "in the long run more patients would suffer from adverse effects of their condition for failing to follow a prescribed regimen as established by their physicians."

The measure before Congress would give the government the authority to include in the labelling the conditions for which the drug should be used. Physicians who have found the drug useful for non-labelled conditions would hesitate to prescribe it for fear of confusing their patients or feel forced to select a less effective product in their judgment, Dr. Annis said.

Dr. Annis said the AMA "has long recognized that certain specific information directed to the patient and appearing on the drug container label is invaluable." In certain circumstances, such as with oral contraceptives, expanded patient information is desirable, the Florida physician noted.

Dr. Annis also testified that no useful purpose would be served by creating the Food and Drug Administration as an independent agency with the Health, Education and Welfare Department, as another section of the bill provides.

Legislation requiring the government to give affected parties more rights to challenge and make recommendations on proposed federal regulations has been endorsed by the American Medical Association.

Specifically backed were bills introduced in the House by Rep. Thomas Kindness (R-Ohio) and in the Senate by Sen. Charles Mathias (R-Md.), providing remedial changes in the Administrative Procedures Act aimed at opening up regulatory procedures to assure that the government does not overstep congressional intent, or ignore it.

Raymond T. Holden, M.D., Chairman of the AMA's Board of Trustees, told the Senate Judiciary Subcommittee that such legislation "is a welcome move toward rectifying the many abuses which have arisen in the rule making process of administrative agencies."

This seems to have been especially true in the health agencies, according to Dr. Holden, who said that health regulations often have resulted in programs "unrecognizable in the original law."

At the same time, the AMA official said legislation to require complicated governmental review of regulations could "create a mechanism which could strangle the good intentions of remedial legislation."

The Senate has passed 64-11 a bill broadening federal authority over clinical laboratories to include those engaged in intrastate operations and giving the government firmer standards control.

Under the legislation, HEW theoretically could apply the controls to individual physicians' offices. The pertinent provision states that the HEW Secretary "may exempt" such offices. As a condition of such exemption, physicians who use their offices as labs as an adjunct for treating their own patients would have to describe the qualifications of non-physician personnel who do lab work, how much they do, and the score each shows in any proficiency testing.

The bill, which now goes to the House where similar legislation is before the House Health Subcommittee, provides:

Federal licensing of all clinical laboratories. HEW would set standards and enforce them itself or delegate enforcement to states having statutory programs meeting federal criteria. Private nonprofit accrediting groups could be used to help enforce standards if they meet federal requirements but no exemption from licensure to privately accredited laboratories is provided;

An advisory council with membership set at 12 persons, to include representatives of nationally recognized laboratory-accreditating bodies, directors of state laboratory-licensing programs, members of the public, and not more than three persons who are owners, operators, or directors of laboratories;

HEW is authorized to waive for two years personnel standards for laboratory technicians employed in hospitals with fewer than 100 beds if located in a rural area;

An office of clinical laboratories to administer one set of uniform standards;

HEW may issue no license unless it has received from the applying laboratory "an accurate, itemized schedule of all current rates charged by the applicant for those laboratory services . . . and such other information as may be necessary, including full disclosures of any current contractural relationships, written or oral, between the applicant and physician respecting such services."

Laboratories found to be engaging in illegal financial abuses would be subject to revocation of licenses.

A Rand Corporation study says the amount people would have to pay in taxes under the disparate national health insurance (NHI) proposals before Congress would

not vary much and suggested this opens the door to compromise.

The study, financed in part by the government, was written by Bridger M. Mitchell, senior Rand economist, and William B. Schwartz, M.D., a Rand consultant and Chairman of the Department of Medicine, School of Medicine, Tufts University.

The report said that the Administration's CHIP approach in its 1975 NHI bill provides a "surprisingly small" saving to middle and upper income taxpayers over the 1975 compromise Kennedy-Mills plan, although both provide essentially the same services.

The Nixon Administration bill and the defunct Kennedy-Mills bill each would require total tax revenues of some $45 billion to fund the health care of people under 65. The Rand team said the Kennedy-Corman proposal would require $68 billion, and the Long-Ribicoff bill, $16 billion.

Financed by payroll and income taxes but requiring no payments to hospitals or doctors by patients, the Kennedy-Corman bill, despite its higher cost, would impose virtually the same total cost for health care on families earning under $15,000 as the Administration and Kennedy-Mills bills, the report said.

But to raise the extra $23 billion it would cost, the Kennedy-Corman bill would impose sharply increased taxes on upper income families—as much as $1,000 a year more than under the Administration and Kennedy-Mills bills for a $40,000-a-year family.

Journal on Microfilm

Microfilmed copies of current as well as all back issues of the JOURNAL are available through University Microfilm Services, a subsidiary of Xerox Corporation. The 35 mm film fits all standard viewers and provides the JOURNAL in miniature at a savings on binding and storage costs. Write for information or send orders direct to University Microfilm Services, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note: Carefully coordinate in vitro sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

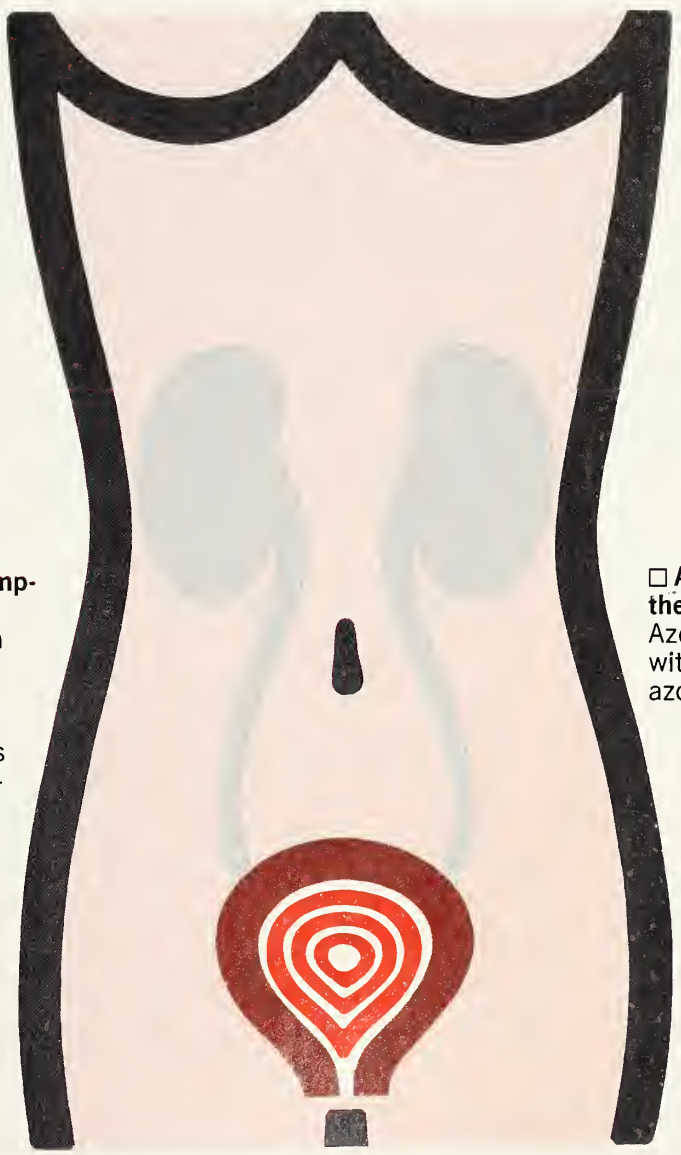
When pain complicates acute cystitis*

Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for the pain

for the pathogens



☐ **Early relief of painful symptoms** such as burning and discomfort associated with urgency and frequency.

☐ **Effective control of susceptible pathogens** such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris.*

☐ **Appropriate antibacterial therapy:** up to three days with Azo Gantanol, then 11 days with Gantanol® (sulfamethoxazole).

*nonobstructed; due to susceptible organisms

ROCHE

DYAZIDE®

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MAKES SENSE

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

FOR LONG-TERM CONTROL OF HYPERTENSION*

Serum K^+ and BUN should be checked periodically. (See Warnings Section.)



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

*Warning

This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

***Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

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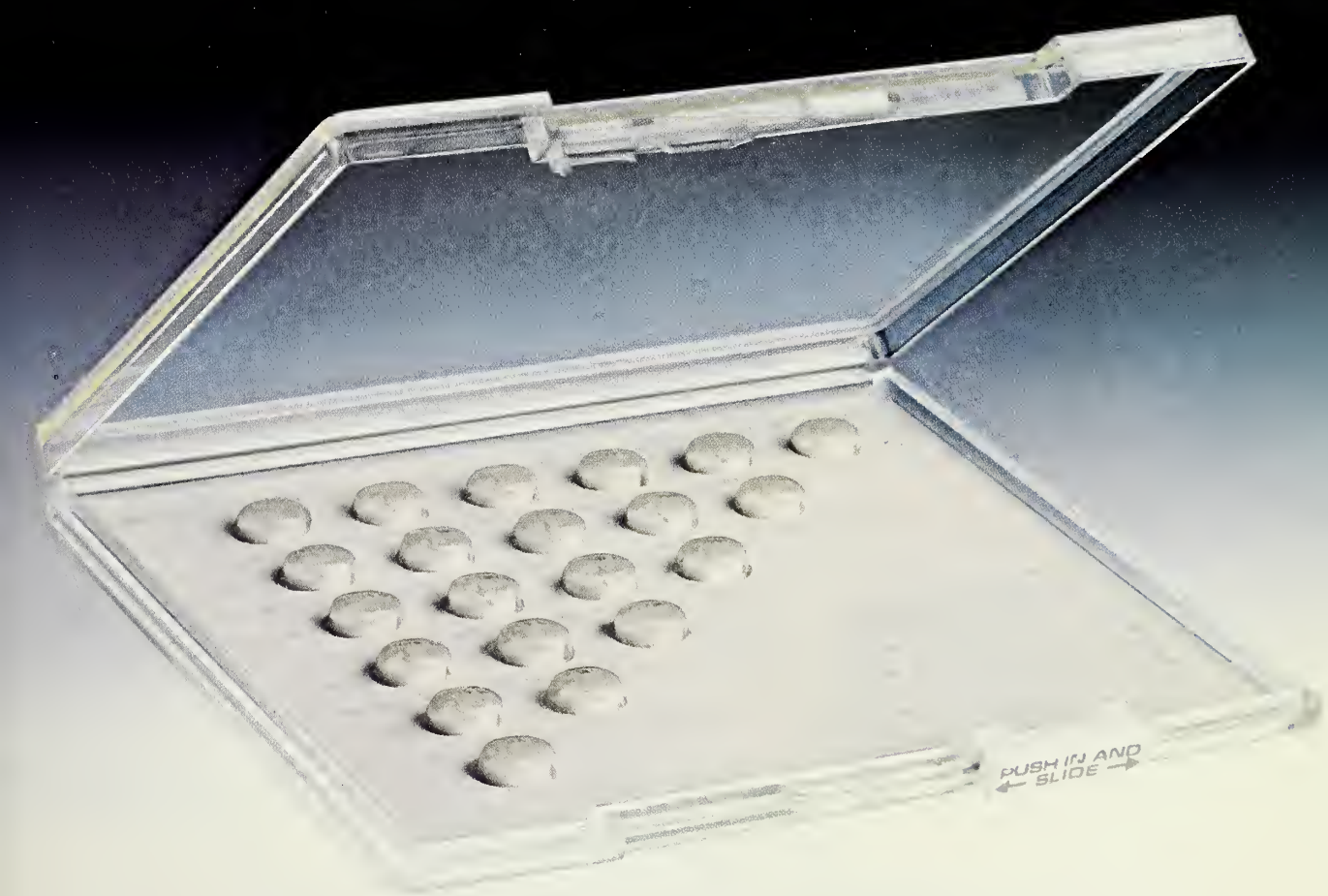
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- Found useful in the management of vertigo* associated with diseases affecting the vestibular system.
- Can relieve nausea and vomiting often associated with vertigo.*
- Usual adult dosage for Antivert/25 for vertigo:* one tablet t.i.d.
- Also available as Antivert (meclizine HCl) 12.5 mg. scored tablets, for dosage convenience and flexibility.
- Antivert/25 (meclizine HCl) 25 mg. *Chewable* Tablets for nausea, vomiting and dizziness associated with motion sickness.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
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Antivert®/25
(meclizine HCl) 25 mg. Tablets
for vertigo*

PHYSICIAN ADVERTISING

The Principles of Medical Ethics of the American Medical Association do *not* prohibit advertising by physicians, declares a statement in the May 24 issue of *The Journal of the American Medical Association.*

In reaffirming the long-standing AMA policy on advertising by medical doctors, the AMA's Judicial Council pointed out that the prescription is not against advertising, but concerns soliciting of patients.

The public is entitled to know the names of physicians, the type of their practices, the location of their offices, their office hours, and "other useful information that will enable people to make a more informed choice of physician," the AMA Council points out.

"The physician may furnish this information through the accepted local media of advertising or communication, which are open to all physicians on like conditions. Office signs, professional cards, dignified announcements, telephone directory listings, and reputable directories are examples of acceptable media for making information available to the public."

A physician may give biographical and other relevant data for listing in a reputable directory. The published data may include the charge for a standard office visit, or the doctor's fee or range of fees for specific types of services.

The statement points out that local, state or medical specialty associations are autonomous, and may have ethical restrictions that exceed the Principles of Medical Ethics. And, legal restrictions on advertising or solicitation of patients exist in the medical licensure laws of at least 34 states.

In the proscribed area of solicitation of patients, the Council points out that it is unethical to use testimonials, create inflated or unjustified expectations of favorable results, make statements that are self-laudatory and imply that the physician has skills superior to others, or use incorrect or incomplete facts that are likely to cause the average person to misunderstand or be deceived.

"Physicians have an ethical duty to subordinate financial reward to social responsibility. A physician should not engage in practices for pecuniary gain that interfere with his medical judgment and skill or cause a deterioration of the quality of medical care. Ability to pay should be considered in reducing fees, and excessive fees are unethical.

"Physicians should not pay commissions or rebates, or give kickbacks for the referral of patients. Likewise, they should not make extravagant claims or proclaim extraordinary skills. Such practices, however common they may be in the commercial world, are unethical in the practice of medicine because they are injurious to the public."

DISABLED PHYSICIANS

Indications are that some 20 state medical societies have now initiated, or are in the process of formulating, programs to identify, treat, and rehabilitate physicians who are mentally ill or who are suffering from alcoholism or drug dependence.

Several states, including Utah, New Mexico, Nebraska and Kansas, have enacted disabled physician legislation in 1976 that includes the principal aspects of the AMA model bill on impaired physicians.

The AMA House of Delegates last winter asked all state medical societies "to urge adoption of the AMA model bill known as the 'Disabled Physicians Act' by the legislatures of their respective jurisdictions."

State society program representatives agree that the programs should include a campaign of publicity and promotion, including distribution of printed material to every physician in the state. They also feel that encouragement of a good relationship between the medical society and the state licensing board, with formal mechanisms for communications is essential. Valid referrals should be encouraged from colleagues, spouses, office personnel, hospital staffs, answering services, narcotics agents, and medical society executives.

The AMA's model state legislation begins: "An Act Concerning the Practice of Medicine. To provide for the restriction, suspension or revocation of the license of any physician to practice medicine because of his inability to practice medicine with reasonable skill and safety to patients, due to physical or mental illness, including deterioration through the aging process or loss of motor skill, or abuse of drugs, including alcohol."

COMPULSORY SERVICE

Physicians are almost evenly divided on the question of whether young doctors who receive government loans or direct financial assistance to pay for their medical education should subsequently be required to serve for a period of time in medical shortage areas, according to the AMA poll reported in the May 24 issue of the Impact section of *American Medical News.*

The poll found that 49.8 per cent of the doctors surveyed are opposed to such mandatory service in return for financial aid, while 45.4 per cent favor it. The others were undecided.

Among the physicians who voted for obligatory service in areas of medical need, older doctors (age 65 and over) are most strongly in favor (69.7 per cent). MDs in the 35-49 age bracket are least in favor.

When asked if they would require all graduating physicians—even those who had received no loans or financial assistance—to serve in shortage areas, 87 per cent of the doctors polled said no.

MEDICAL DEVICES

Federal control of medical devices similar to its present authority over drugs has been passed by the Congress into law, capping a ten-year campaign by the government. The measure passed by Congress and sent to the White House for President Ford's signature provides three general classifications for devices. Custom devices ordered by physicians for individual patients are exempt in most cases.

Federal courts in recent years have given the Food and Drug Administration considerable authority to regulate devices as well as drugs. The Congressional action had been long anticipated by FDA, which has formed advisory committees that already have reviewed and classified most devices on the market. Controversy in the past has erupted over intrauterine devices and cardiac pacemakers, among others.

In its report on the legislation, the House Commerce Committee said that "although many lives have been saved or improved by new discoveries, the potential for harm to consumers has been heightened by the critical medical conditions in which sophisticated modern devices are used and by the complicated technology involved in their manufacture and use. In the search to expand medical knowledge, new experimental approaches have sometimes been tried without adequate premarket clinical testing, quality control in materials selected, or patient consent."

The general aim of the legislation is to prevent public marketing of devices that are not reliable or safe. FDA has always had the power to move against unsafe devices after the fact.

The three classifications are:

General controls—record and report keeping, good manufacturing practices, registration of manufacturers, prohibition of misbranded or adulterated products.

Performance standards—standards will be set by the government.

Premarket approval—covers implanted devices or those considered to be life sustaining or supporting. Devices not intended to remain in the body more than 30 days in general would not be considered implanted devices. Devices with a long history of safe use such as dental devices, bone screws and hip pins, would not fall in this group.

Panels of experts will make classification recommendations on devices after which the HEW Department will classify the devices by regulation.

No one expects the device regulatory program to experience clear sailing. There will be many disputes over classifications and problems over what constitutes "custom devices" not requiring clearance.

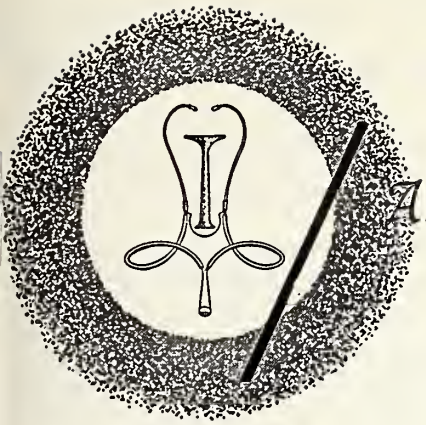
At a recent conference on the devices legislation, William Wardell, M.D., of the University of Rochester School of Medicine, warned of "negative impacts" such as a lag in research and innovation in the device field.

FDA has divided devices into distinct categories: orthopedics; cardiovascular diseases; dentistry; anesthesiology; obstetrics and gynecology; gastroenterology; urology; radiology; neurology; ear, nose, and throat disorders; ophthalmology; plastic and general surgery; physical medicine; clinical pathology; and general and personal use.

CHANGE OF ADDRESS

Please notify the Kansas Medical Society of any changes in address

Help keep the mailing list up to date



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. *Notice of the session is posted in advance to allow the physician time to make preparations.*

JUNE

June 20-22 — American Diabetes Association, Hilton, San Francisco. INFO: E. M. Frost, W. 48th Street, New York 10020.

June 21-26 — The Role of Medical Group Practice in the Health Policies of Different Countries, Paris, France. INFO: Robert W. Jamplis, M.D., American Group Practice Association, 20 S. Quaker Lane, Box 949, Alexandria, VA. 22313.

June 26-July 1 — American Medical Association Annual Meeting, Dallas. INFO: J. H. Sammons, MD, 535 N. Dearborn, Chicago 60610.

June 26-27 — American Association for the Study of Headache, Sheraton-Dallas, Dallas. INFO: S. Diamond, M.D., 5252 N. Western Ave., Chicago 60625.

June 28-July 4 — International College of Surgeons, Hyatt Hotel, Cherry Hill, PA. INFO: M. Lento, 1516 Lake Shore Drive, Chicago 60610.

SEPTEMBER

Sept. 9-11 — American Association of Obstetricians and Gynecologists, The Homestead, Hot Springs, VA. INFO: G. W. Mitchell, M.D., 171 Harrison Ave., Boston 02111.

Sept. 13-17 — Cardiology for the Consultant, Crown Center Hotel, Kansas City, MO. INFO: A. L. Bingham, University of Missouri-Kansas City School of Medicine, 2220 Holmes Street, Kansas City, MO 64108.

Sept. 20-22 — American Cancer Society Conference on Cancer Research and Clinical Investigation, the Chase-Park Plaza, St. Louis. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Avenue, New York 10017.

Sept. 20-23 — American Hospital Association, Statler Hilton, Dallas. INFO: J. A. McMahon, 840 N. Lake Shore Drive, Chicago 60611.

Sept. 21-26 — Colorado Medical Society, the Broadmoor, Colorado Springs. INFO: D. G. Derry, 1601 E. 19th Ave., Denver 80218.

Sept. 24-25 — The Long Weekend for Dermatology/Gynecology, Alameda Plaza Hotel, Kansas City, MO. INFO: A. L. Bingham, University of Missouri-Kansas City School of Medicine, 2220 Holmes Street, Kansas City, MO 64108.

OCTOBER

Oct. 5-9 — American Group Practice Association, Americana, Bal Harbour, FL. INFO: J. B. Cobb, 20 S. Quaker Lane, PO Box 949, Alexandria, VA 22313.

Oct. 6-9 — American Medical Writers Association, Pontchartrain, Detroit. INFO: Ms L. Sablack, 9650 Rockville Pike, Rockville, MD 20014.

Oct. 7-10 — American School Health Association, Marriott, New Orleans. INFO: S. J. Jerrick, PO Box 708, ASHA National Office Bldg., Kent, OH 44240.

Oct. 9-13 — American Society of Anesthesiologists, San Francisco Hilton, San Francisco. INFO: J. W. Andes, 515 Busse Hwy, Park Ridge, IL 60068.

Oct. 16-21 — American Academy of Pediatrics, Palmer House, Chicago. INFO: R. G. Frazier, M.D., 1801 Hinman Ave., Evanston, IL 60204.

Oct. 17-18 — American College of Preventive Medicine, Miami Beach, FL. INFO: W. Bentley, 801 Old Lancaster Rd., Bryn Mawr, PA 19010.

Oct. 21-23 — Association of American Physicians and Surgeons, Camelback Inn, Scottsdale, AZ. INFO: F. W. Woolley, 2111 Enco Dr., Suite N-515, Oak Brook, IL 60521.

Oct. 24-28 — American College of Chest Physicians, Atlanta. INFO: A. Soffer, M.D., 911 Busse Hwy., Park Ridge, IL 60068.

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300-mg.* Pulvules®

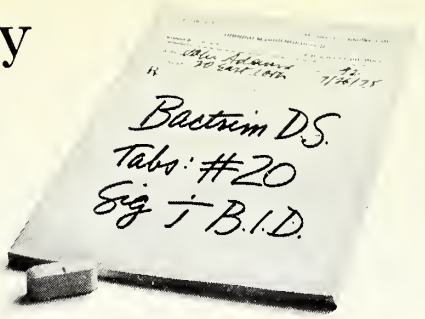
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Additional information available to the profession on request.

*Present as 345.9 mg. of the calcium salt of fenoprofen dihydrate equivalent to 300 mg. fenoprofen.

600091

10-day Bactrim therapy outperforms 10-day ampicillin therapy.



In a multicenter, double-blind study of patients with chronic or frequently recurrent urinary tract infection, Bactrim 10-day therapy outperformed ampicillin 10-day therapy by 27.2%, when comparing patients who maintained clear cultures for eight weeks. Criterion for "clear culture" was 1000 or fewer organisms/ml of urine.

While adverse reactions noted in this study were mild (*e.g.*, vomiting, nausea, rash), more serious reactions can occur with these drugs. See manufacturer's product information for complete listing. Maintain adequate fluid intake; perform frequent CBC's and urinalyses with microscopic examination.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Bactrim™ DS
(160 mg trimethoprim and 800 mg sulfamethoxazole)
Double Strength tablets
Just 1 tablet B.I.D.

Bactrim™

(80 mg trimethoprim and 400 mg sulfamethoxazole)
2 tablets B.I.D.

For chronic or frequently recurrent cystitis and pyelonephritis due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections evidenced by persistent bacteriuria (symptomatic or asymptomatic), frequently recurrent infections (relapse or reinfection), or infections associated with urinary tract complications, such as obstruction. Primarily for cystitis, pyelonephritis or pyelitis due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii.*

NOTE: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in these urinary tract infections. The recommended quantitative disc susceptibility method (*Federal Register,* 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. **Data are insufficient to recommend use in infants and children under 12.**

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12. Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) every 24 hours
Below 15	Use not recommended

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole — bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10.

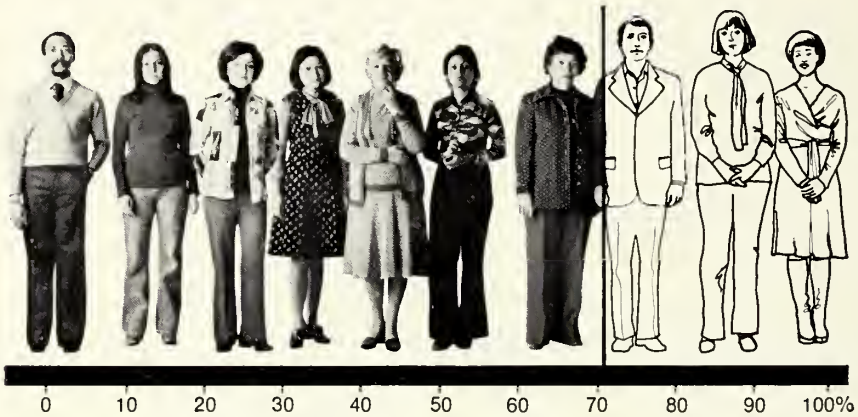
Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored — bottles of 16 oz (1 pint).

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Nutley, New Jersey 07110

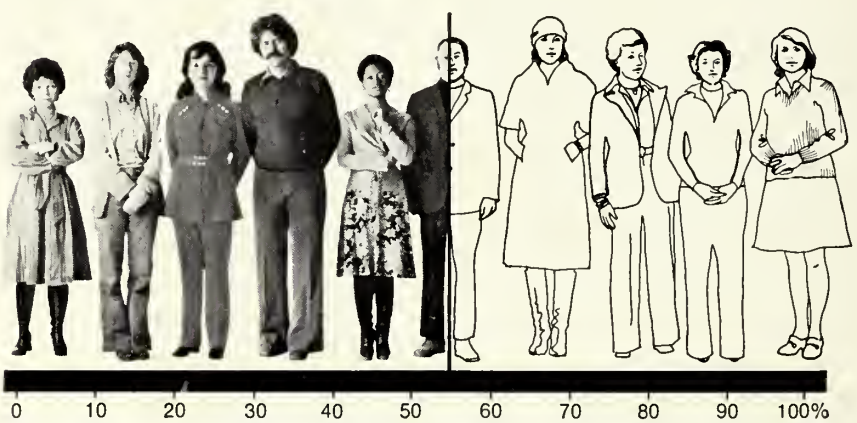
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In a multicenter study of patients with chronic or frequently recurrent urinary tract i

Bactrim was 27.2%* more effective than ampicillin in keeping patients infection-free for 8 weeks.†



Bactrim–70.5% of 78 patients infection-free at 8 weeks.



ampicillin–55.4% of 74 patients infection-free at 8 weeks.

*This percentage is arrived at by the statistical method of dividing the difference between Bactrim and ampicillin results (15.1%) by the percent of ampicillin results (55.4%).

†Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey 07110

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole)

Double Strength tablets Just 1 tablet B.I.D.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Please see summary of product information on preceding page.

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75th Anniversary

THE Journal OF THE Kansas Medical Society

JULY
1976

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NO. VII

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Both often



Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequ and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdr may be associated with temporary increase in frequency and/or severity o seizures. Advise against simultaneous gestion of alcohol and other CNS depr sants. Withdrawal symptoms (similar those with barbiturates and alcohol) h occurred following abrupt discontinu (convulsions, tremor, abdominal and cle cramps, vomiting and sweating). addiction-prone individuals under car

respond to one

According to her major
nptoms, she is a psychoneu-
ic patient with severe
kiety. But according to the
cription she gives of her
lings, part of the problem
y sound like depression.
is is because her problem,
nough primarily one of ex-
sive anxiety, is often accom-
nied by depressive symptom-
logy. Valium (diazepam)
provide relief for both—as
excessive anxiety is re-
ved, the depressive symp-
ns associated with it are also
en relieved.

There are other advan-
es in using Valium for the
nagement of psychoneu-
ic anxiety with secondary
pressive symptoms: the
chotherapeutic effect of
lium is pronounced and
id. This means that im-
vement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

veillance because of their predisposi-
to habituation and dependence. In
gnancy, lactation or women of child-
ring age, weigh potential benefit
inst possible hazard.

cautions: If combined with other psy-
tropics or anticonvulsants, consider
efully pharmacology of agents em-
yed; drugs such as phenothiazines,
cotics, barbiturates, MAO inhibitors
other antidepressants may potentiate
action. Usual precautions indicated in
ients severely depressed, or with latent
ression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Nutley, New Jersey 07110

Vol. LXXVII, Number 7—July, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.


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Before prescribing, please consult complete product information, a summary of which follows:

Indications: In adults, urinary tract infections complicated by pain (primarily pyelonephritis, pyelitis and cystitis) due to susceptible organisms (usually *E. coli, Klebsiella-Aerobacter, Staphylococcus aureus, Proteus mirabilis,* and, less frequently, *Proteus vulgaris*) in the absence of obstructive uropathy or foreign bodies. **Note: Carefully coordinate *in vitro* sulfonamide sensitivity tests with bacteriologic and clinical response; add aminobenzoic acid to follow-up culture media. The increasing frequency of resistant organisms limits the usefulness of antibacterials including sulfonamides.** Measure sulfonamide blood levels as variations may occur; 20 mg/100 ml should be maximum total level.

Contraindications: Children below age 12; sulfonamide hypersensitivity; pregnancy at term and during nursing period; because Azo Gantanol contains phenazopyridine hydrochloride it is contraindicated in glomerulonephritis, severe hepatitis, uremia, and pyelonephritis of pregnancy with G.I. disturbances.

Warnings: Safety during pregnancy not established. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been reported and early clinical signs (sore throat, fever, pallor, purpura or jaundice) may indicate serious blood disorders. Frequent CBC and urinalysis with microscopic examination are recommended during sulfonamide therapy.

Precautions: Use cautiously in patients with impaired renal or hepatic function, severe allergy, bronchial asthma; in glucose-6-phosphate dehydrogenase-deficient individuals in whom dose-related hemolysis may occur. Maintain adequate fluid intake to prevent crystalluria and stone formation.

Adverse Reactions: *Blood dyscrasias* (agranulocytosis, aplastic anemia, thrombocytopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia); *allergic reactions* (erythema multiforme, skin eruptions, Stevens-Johnson syndrome, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis); *G.I. reactions* (nausea, emesis, abdominal pains, hepatitis, diarrhea, anorexia, pancreatitis and stomatitis); *CNS reactions* (headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo and insomnia); *miscellaneous reactions* (drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon). Due to certain chemical similarities with some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia. Cross-sensitivity with these agents may exist.

Dosage: Azo Gantanol is intended for the acute, painful phase of urinary tract infections. *Usual adult dosage:* 2 Gm (4 tabs) initially, then 1 Gm (2 tabs) B.I.D. for up to 3 days. If pain persists, causes other than infection should be sought. After relief of pain has been obtained, continued treatment with Gantanol (sulfamethoxazole) may be considered.

NOTE: Patients should be told that the orange-red dye (phenazopyridine HCl) will color the urine.

Supplied: Tablets, red, film-coated, each containing 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl—bottles of 100 and 500.

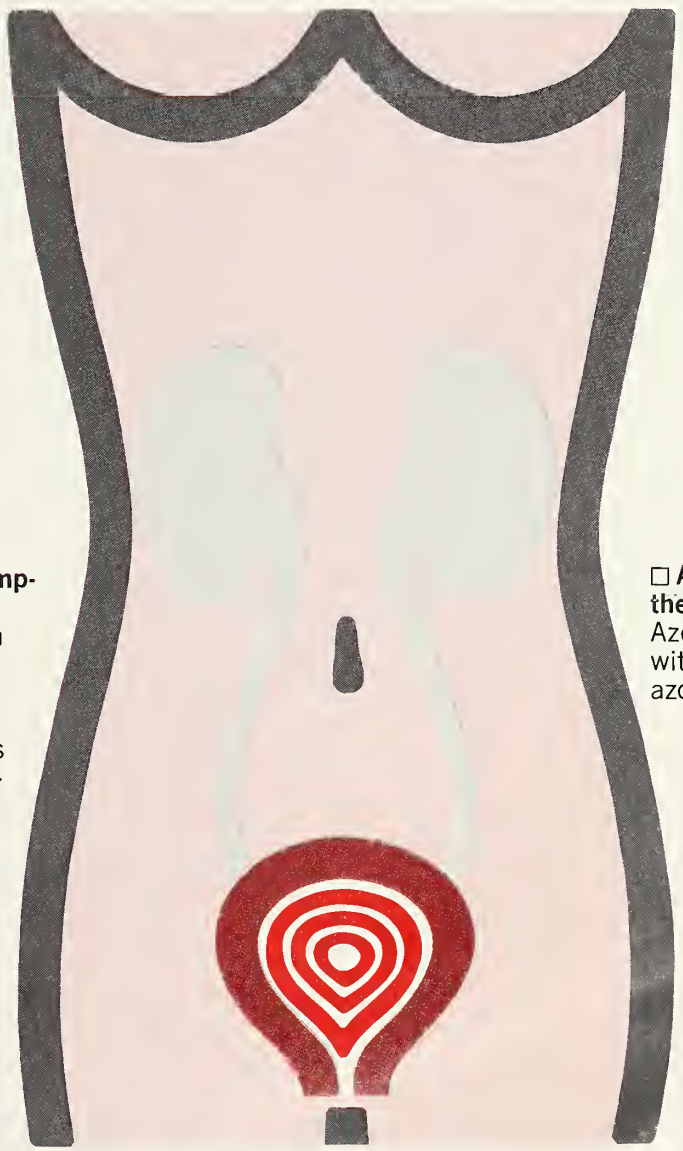
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When pain complicates acute cystitis*

Azo Gantanol®

Each tablet contains 0.5 Gm sulfamethoxazole and 100 mg phenazopyridine HCl.

for the pain for the pathogens



☐ **Early relief of painful symptoms** such as burning and discomfort associated with urgency and frequency.

☐ **Effective control of susceptible pathogens** such as *E. coli, Klebsiella-Aerobacter, Staph. aureus, Proteus mirabilis* and, less frequently, *Proteus vulgaris*.

☐ **Appropriate antibacterial therapy:** up to three days with Azo Gantanol, then 11 days with Gantanol® (sulfamethoxazole).

*nonobstructed; due to susceptible organisms

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Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE FOR LONG-TERM CONTROL OF HYPERTENSION*



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

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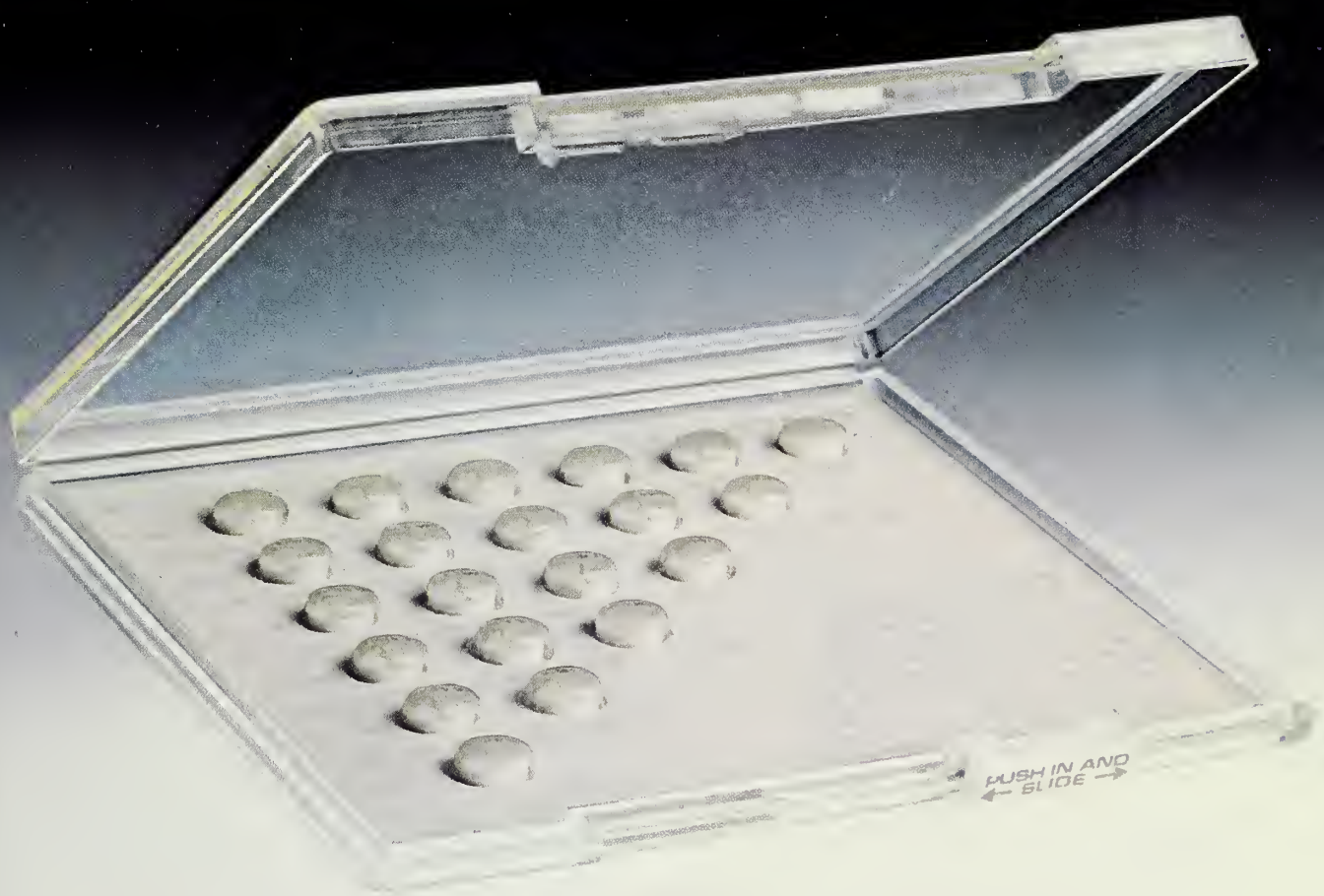
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for vertigo*

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▪ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017



Testing in Humans: Who, Where & When.

the weight of ethical opinion:

Few would disagree that the effectiveness and safety of any therapeutic agent or device must be determined through clinical research.

But now the *practice* of clinical research is under appraisal by Congress, the press and the general public. Who shall administer it? On whom are the products to be tested? Under what circumstances? And how shall results be evaluated and utilized?

The Pharmaceutical Manufacturers Association represents firms that are significantly engaged in the discovery and development of new medicines, medical devices and diagnostic products. Clinical research is essential to their efforts. Consequently, PMA formulated positions which it submitted on July 11, 1975, to the Subcommittee on Health of the Senate Labor and Public Welfare Committee, as its official policy recommendations. Here are the essentials of PMA's current thinking in this vital area.

1. PMA supports the mandate and mission of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research and offers to establish a special committee composed of experts of appropriate disciplines familiar with the industry's research methodology to volunteer its service to the Commission.

2. PMA supports the formation of an independent, expert, broadly based and representative panel to assess the current state of drug innovation and the impact upon it of existing laws, regulations and procedures.

3. When FDA proposes regulations, it should prepare and publish in the *Federal Register* a detailed statement assessing the impact of those regulations on drug and device innovation.

4. PMA proposes that an appropriately qualified medical organization be encouraged to undertake a comprehensive study of the optimum roles and responsibilities of the sponsor and physician when company-sponsored clinical research is performed by independent clinical investigators.

5. PMA recognizes that the physician-investigator has, and should have, the ultimate responsibility for deciding the substance and form of the informed consent to be obtained. However, PMA recommends that the sponsor of the experiment aid the investigator in discharging this important responsibility by providing (1) a document detailing the investigator's responsibilities under FDA regulations with regard to patient consent, and (2) a written description of the relevant facts about the investigational item to be studied, in comprehensible lay language.

6. In the case of children, the sponsor must require that informed consent be obtained from a legally appropriate representative of the participant. Voluntary consent of an older child, who may be capable of understanding, in addition to that of a parent, guardian or other legally responsible person, is advisable. Safety of the drug or device shall have been assessed in adult populations prior to use in children.

7. PMA endorses the general principle that, in the case of the mentally infirm, consent should be sought from both an understanding subject and from a parent or guardian, or in their absence, another legally responsible person.

8. Pharmaceutical manufacturers sponsoring investigations in prisons must take all reasonable care to assure that the facilities and personnel used in the conduct of the investigations are suitable for the protection of participants, and for the avoidance of coercion, with a respect for basic humanitarian principles.

9. Sponsors intending to conduct non-therapeutic clinical trials through the participation of employee volunteers should expand the membership and scope of its existing Medical Research Committee, or establish such an internal Medical Research Committee, with responsibility to approve the consent forms of all volunteers, designs, protocols and the scope of the trial. The Committee should also bear responsibility to ensure full compliance with all procedures intended to protect employee volunteers' rights.

10. Where the sponsor obtains medical information or data on individuals, it shall be accorded the same confidential status as provided in codes of ethics governing health care professionals.

11. PMA and its member firms accept responsibility to aid and encourage appropriate follow-up of human subjects who have received investigational products that cause latent toxicity in animals or, during their use in clinical investigation, are found to cause unexpected and serious adverse effects.

12. PMA supports the exploration and development by its member companies of more systematic surveillance procedures for newly marketed products.

13. When a pharmaceutical manufacturer concludes, on the basis of early clinical trials of a basic new agent, that a new drug application is likely to be submitted, a proposed development plan accompanied by a summary of existing data, would be submitted to the FDA. Following a review of this submission, the FDA, and its Advisory Committee where appropriate, would meet with the sponsor to discuss the development plan. No *formal* FDA approval should be required at this stage. Rather, the emphasis should be on identification of potential problems and questions for the sponsor's further study and resolution as the program develops.

The PMA believes that health professionals as well as the public at large should be made aware of these 13 points in its Policy on Clinical Research. For these recommendations envisage constructive, cooperative action by industry, research institutions, the health professions and government to encourage creative and workable responses to issues involved in the clinical investigation of new products.

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1155 Fifteenth Street, N.W.
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One contains aspirin.
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Lilly
C33
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100 mg. propoxyphene napsylate
and 650 mg. acetaminophen
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Compound-65
65 mg. propoxyphene hydrochloride,
227 mg. aspirin, 162 mg. phenacetin,
and 32.4 mg. caffeine
Lilly
Additional information available to the profession on request.
Eli Lilly and Company, Inc., Indianapolis, Indiana 46206
500341

We've Come a Long Way—Maybe

In recognition of the 75th birthday of the JOURNAL OF THE KANSAS MEDICAL SOCIETY, the Editorial Board presents this issue which, readers will promptly note, is devoted entirely to items of historical character—and, quite naturally, Kansas medical history at that. It embodies, therefore, those principles which have guided the JOURNAL these many years: idealistic and dedicated service to the medical community—the recording of the vagaries of Kansas medicine for the benefit of posterity—blended with practicality—we had the manuscripts.

These papers are not limited to the period of life of the JOURNAL, nor do they necessarily have any direct relationship to the progress of the JOURNAL. This is not because publications, like people, become a little confused in their later years—forgetting some things which have happened and recalling things that have not—or which occurred before their birth. Rather, it emphasizes that the JOURNAL, the outgrowth of the *Transactions of the Kansas Medical Society,* has been an integral part of the development and progress of the Kansas Medical Society, surviving and growing at the sufferance of the members of that organization (as demonstrated by their favorable responses to the not infrequent calls for emergency monetary transfusions). The Editorial Board salutes these loyal benefactors, past and present (and probably future), and wishes them enjoyment of these articles which are, after all, their story.

The Golden Belt Medical Society in Kansas

The First Fifty Years

JOHN M. PORTER, M.D.,* ***Concordia***

Ed. Note: The present publication of this paper, written by Dr. John M. Porter, a former president of the Kansas Medical Society who died in office September 5, 1955, requires some additional comment and explanation.

The paper was presented by Dr. Porter at the 50th Anniversary Meeting of the Golden Belt Medical Society in April 1939, at the Municipal Auditorium in Junction City, a date determined by his reference in the text to the origins of the Golden Belt Medical Society "50 years ago next month." It was submitted to THE JOURNAL sometime between 1946 and 1952, the exact date of which is uncertain, and was given to me for review. In my zeal to take good care of it (this being before the days of photostatic copies), I put it away so carefully that I was later unable to find it, even after repeated searches. It unexpectedly came to light some five years or so ago, while I was looking through some old documents at my home, and has now been brought out for others to see.

There is a note attached, in Dr. Porter's handwriting, dated January 17, 1946, which was not necessarily written at the time the article was submitted. The paper was in an envelope postmarked "1952," but again this may not have been the envelope in which it was mailed to us—if indeed it was mailed—as it was postmarked "Wichita." Nevertheless, the paper seems to have been in my (protective?) custody for a long, long time—evidently at least twenty years!

In reading it now, more than 37 years after it was prepared and presented at a meeting, and after at least 20 years of "cold storage," some of the names which were familiar to his audience are totally unknown to the younger members of today. It is necessary to try to transplant oneself to that date to fully enjoy the article which, remember, was prepared not for publication, but for presentation to a living audience many of whom knew intimately the people to whom he makes references.

No attempt has been made to alter the presentation, but it is here presented as given to us. A few explanatory notes, or names or initials, have been inserted or put as footnotes. Most of these have been obtained by reading minutes and programs of the Golden Belt Medical Society, which I unexpectedly located, and are as accurate as I can make them, but still may have some errors.

Unfortunately, at some time, perhaps 10 or 15 years ago, The Golden Belt Medical Society lapsed into a period of inactivity from which it never aroused, and even the location of the records for its last years is a mystery to me, though I conducted a limited search for them. If any readers know of the location of these records, I would appreciate knowing it, and if possible receiving the records which could then be reunited with the earlier ones (which run from its organization into the 1940s) in a safe place for preservation. Any such communication can be sent to me at THE JOURNAL office.

I extend my apologies to THE JOURNAL, to the Society, and—posthumously—to Dr. Porter, for delaying this publication for such a long and inexcusable period of time. However, I think that you will still enjoy reading it. Transplant yourself back 37 years and see!—*Orville R. Clark, M.D.*

FIFTY YEARS is a long time in the history of Kansas and a long time in the practice of medicine. Very few of us here tonight know anything about medical practice in Kansas a half century ago except by hearsay. It is difficult for even Dr. W. N. King or Dr. J. W. Neptune—our oldest members—to visualize the profession and the communities of Northern Kansas as they existed in 1889. The absence of automobiles and paved roads, of telephones and electric lights, of radios beside the patient's bed, the lack of such recent and dramatic innovations is easy to realize, but there are other and more fundamental differences when we stop to compare the 1880s and 1890s with today. Cholecystography, electrocardiograms, and cystoscopy are quite recent additions to our diagnostic armamentarium. Blood cultures, metabolism tests, and pneumococcus typing are examples of the refinements we use but still respect as new developments. In 1889, however, there were not even Widal or Wasserman tests, the x-ray was unknown, and lumbar punctures had not been introduced. The ophthalmoscope, proctoscope, and bronchoscope all awaited invention of the incandescent bulb. The practitioner of those days depended on his senses, including common sense, and reached a diagnosis as accurate as possible under the circumstances.

Naturally, he was more concerned with treatment than with study and analysis of his patient. If he seemed to overdose, if he laid undue emphasis on drug therapy, if he seemed at times to treat symptoms rather than diseases or patients, he is readily forgiven when we consider the limitations under which he worked. Even in therapeutics, the practitioner of those days was handicapped. Insulin, liver extract, sulfanilamide, and the like have worked their revolutions so recently that they are not easily overlooked, but in 1889 there was no diphtheria antitoxin, adrenalin, or arsphenamine. Aspirin was

* 1899-1955.

unknown, none of the barbituric acid compounds were available, digitalis was uncertain and often inactive, and many other commonplaces of today were unthought of It is almost easier to list the few familiar things available at that time than the many that have been introduced since.

In 1889, the year the Golden Belt Society was founded, the safety bicycle was just becoming a permanent improvement over the old high wheel type, the Eiffel Tower was going up in Paris, Sockless Jerry Simpson was running for Congress in Kansas, corn was selling for ten cents, and the Populists were rising. "Casey at the Bat" was just reaching the Midwest, Gentleman Jim Corbett, Mark Twain and Buffalo Bill were well known figures, the Floradora Sextet was becoming popular, and many of us were not yet born. In medicine, Oliver Wendell Holmes was still alive at 80, Osler was a young man of 40, just starting his career at the new Johns Hopkins Hospital, Florence Nightingale was still active, and Pasteur was busy with his new rabies vaccine. In July of that year, a group of Topeka men organized the Kansas Medical College in Topeka, and in September of 1890, the first students were admitted. Physicians and Surgeons of Kansas City was not formed until 1894, nor the Kansas City Medical College until 1897.[1] All of these schools, trainers of so many of our older members, have passed into history, but the Society their graduates joined still flourishes.

The first record in the archives of the Golden Belt Society is a printed slip of paper dated January 30, 1889, without address except "Dear Doctor." It reads as follows:

> The organization of a *worthy* Medical Society composed of regular members in good standing in the profession in Saline, Dickinson, Davis (sic), Riley, Morris, Chase, Marion, McPherson, Ottawa, Cloud, Clay, etc., counties in the State of Kansas, has for some time received considerable attention, until there remains no longer any doubt as to the advisability of successfully instituting and maintaining such a body. Pursuant to this prevailing opinion, we, the undersigned, hereby solicit your attendance at a convention called to meet at Junction City, Kansas, on Tuesday afternoon at 2 o'clock, February 5, 1889, for the purpose of organization.

This was signed by the following (no initials were used in the original): W. N. King, Abilene; P. Daugherty, Junction City; Dr. Collins, Salina; W. S. Harvey, McPherson; B. F. Morgan, Clay Center; L. J. Lyman, Manhattan; Dr. Hanaford, Marion; W. M. Campbell, Minneapolis; Z. T. Harvey, Council Grove; and Dr. Adams, Skiddy. Rather curiously, Dr. Morgan and Dr. Lyman did not join the Society until years later, and Drs. Collins, Hanaford, and Adams appear never to have joined at all. The only copy available of this call is addressed in pen and ink to Dr. Edward E. Hazlett, Abilene.

The next notation appears in the minute book of the Society in the handwriting of Dr. Hazlett, Secretary, and also appears in a small pamphlet printed by the *Daily Reflector* at Abilene in 1889. The pamphlet contains the Constitution and By-laws, a list of charter members, the first officers, and minutes of the preliminary meetings.

The minutes of the first meeting, dated February 5, 1889, Junction City, Kansas, follow:

> At a meeting of physicians held today at the office of Dr. P. Daugherty the following gentlemen were present (no initials were originally used but have been added where possible): Dr. W. M. Campbell, of Minneapolis; Drs. George E. Harvey, P. Daugherty and Norton of Junction City; Drs. W. A. Phillips, W. B. Dewees and F. B. Browne of Salina; Dr. T. N. Gunn of Chapman; Dr. W. M. Waterman of Manchester; and Dr. E. E. Hazlett of Abilene. On motion, Dr. Daugherty was chosen chairman of the meeting and Dr. Hazlett, secretary pro tem. The chair then called on Dr. Dewees (the printed form states "called on some gentleman") to state the object of the meeting. In response, Dr. Dewees read the circular call for the meeting "for the purpose of organizing a *worthy* medical society in the counties of Saline, Ottawa, Cloud, McPherson, Marion, Dickinson, Clay, Geary, Norris, Riley and Chase." Dr. Dewees also read letters (printed form states, "letters were read") of encouragement from Drs. Collins and Thompson of Salina, Dr. Morgan of Clay Center, and Dr. Saunders, of Niles, Kansas. Dr. Harvey stated a letter from Dr. Winterbotham of Salina favored the project. Dr. Gunn moved the chair appoint a committee on permanent organization, and Dr. Harvey seconded. Dr. Phillips asked permission to say a few words regarding the desirability of organizing such a society, which he did and expressed the hope that no one but physicians in good standing would be eligible to membership, in case organization was perfected, etc. Dr. Gunn expressed himself as opposed to the organization of a society antagonistic to already existing associations, and after considerable discussion withdrew his motion. Dr. Phillips moved adjournment for three months to consider the matter more thoroughly. No second. Dr. Harvey moved the chair appoint a committee of three to consider the advisability of organizing. The chair appointed Drs. Harvey, Browne and Hazlett, who withdrew and after consideration reported and recommended "that permanent organization be deferred six weeks; and (further), that a committee of three be appointed by the chair to investigate charges preferred against one of the gentlemen present and report at a meeting to be held in this place March 19, 1889." The chair referred the investigation back to the same committee. Motion to adjourn carried. Signed by Edward E. Hazlett, Secretary, Pro tem.

Thus it is evident the Society was in trouble at its inception. This apparently arose through some complaint against Dr. Dewees, of Salina. He was very much in evidence in the early proceedings, and efforts to minimize his activities are apparent in the printed minutes,

where his name is deleted and "some gentleman" substituted. Nothing is set down at any place regarding the charges against him. At the second meeting, March 19, 1889, at which he and Dr. Phillips were both present, the following is recorded in the minutes:

Dr. Harvey reported that the committee on the Phillips-Dewees matter had made a formal request of Dr. Phillips to reduce his charges to writing so they could better consider them but had so far received no reply and could therefore do nothing. He asked that the committee be discharged. Dr. Phillips said the charges were against other men in Salina aside from Dr. Dewees and that he did not consider he should reply to the request of the committee inasmuch as he had made his statement to them in person. On ballot the report of the committee was received and adopted and the committee discharged.

At this same meeting, the Committee on Permanent Organization recommended elimination of the word "worthy" from the call, and that Saline County be omitted from the list of counties included. Dr. Phillips's motion of non-concurrence was not seconded in this report. Dr. Dewees then moved its acceptance and his motion was seconded and carried. Dr. Phillips's name does not appear in the records from that time on. He apparently dropped out of the Society, although the October 3 meeting was held in Salina.

Dr. Dewees continued to be a member of the Society and was on the program for July 4, 1889. In 1891 he was elected president. This interesting controversy was next heard of in the minutes of the regular fall meeting October 7, 1897, signed by E. B. LaFevre as Secretary.

Charges of unethical and unprofessional conduct were preferred by Dr. LaFevre against Dr. Wm. B. Dewees of Salina, and referred by the chair to the committee on ethics for their investigation. The chair also appointed Dr. W. E. Fowler, of Brookville, as a counsil (sic) for Dr. Dewees and instructed the committee to prepare their report so as to make it the first order of business upon reassembling for the evening session.

At the evening session:

The chair called for the report of the committee and Dr. Ketchersid, as chairman presented a written report saying the committee had found the charges to be true as alleged by Dr. LaFevre, and recommended that Dr. Dewees be expelled from the society.

Dr. Fowler moved that action be postponed until Dr. Dewees could be present but the motion was lost. The committee report was then accepted by a unanimous vote and the secretary instructed to notify Dr. Dewees.

The next meeting of the Society was at Solomon on January 6, 1898, and on motion of Dr. Hazlett, seconded by Dr. Murphy, the reading of the minutes of the previous meeting was dispensed with. Thereupon, according to the record:

Mr. Mohler, a Salina lawyer, rose and asked to inspect the minutes of the previous meeting. Dr. Hazlett asked Mr. Mohler why such a request was presented. Mr. Mohler thereupon explained that he appeared at the meeting on behalf of his client, Dr. Dewees, saying that at the October 1897 meeting certain action was taken by the society thru (sic) which his client, Dr. Dewees, had been expelled from this body. After some discussion, participated in by various members, and after the secretary's statement that there was no reason why Mr. Mohler should not hear read that portion of the minutes relating to the charges against Dr. Dewees and his expulsion from the society, the secretary was instructed to read the same, which was done. Dr. Searl moved that the society go into a committee of the whole for the purpose of considering the suggestions of Mr. Mohler. No second. Dr. LaFevre informed the chair of a previous motion before the body (that of Dr. Hazlett, with second by Dr. Murphy) and asked that the motion be put. Thereupon, Mr. Mohler asked that some member make a motion to rescind that action of the society at the last meeting against Dr. Dewees; to expunge the same from the minutes; and to reinstate Dr. Dewees to membership in this society in good standing. Mr. Mohler explained that not being a member of the body, he could only request on behalf of his client, that some member make the above motion in order to get it before the society. No action being taken by the society, Mr. Mohler next requested that he be furnished with a transcript of the minutes of the last meeting, the charges brought against Dr. Dewees, and to be informed of the names and addresses of the members finding the said charges true. No action being taken on this request, the chair called for the reading of papers.

The meeting proceeded.

After Dr. Dewees' name, the word "expelled" is written, where he signed the constitution. A paper appears in the archives addressed to the officers and members of the Society, saying: "We, the undersigned members of this society, do respectfully request the re-instatement of Dr. Wm. B. Dewees of Salina, Kansas, to membership in this society." This was signed by 17 men, including Drs. Moses, Neptune, and Conklin. According to the minutes of October 1, 1903, Dr. Fowler read this petition to the Society and moved its adoption. This was seconded but ruled out of order by the President, Dr. J. D. Riddell. Dr. May, with second by Dr. Neptune, took an appeal to the floor, but the President was sustained. Dr. Neptune moved that Dewees be allowed to come before the Society and state his side of the case, but there was no second. After some other business (probably purposely interposed), this motion was repeated, including permission for Dr. Dewees to apply for membership. This was seconded by Dr. Fowler. An amendment by Dr. Moses, that Dewees take the initiative and apply for membership to the Committee on Ethics and Elections was offered. The minutes state that the "motion was lost," presumably the entire motion and amendment.

On October 6, 1904, Dr. Dewees and six other men, including Drs. Brittain and Seitz, were admitted to membership, apparently with no discussion. In 1906, Dr. Dewees took part in the program at the annual meeting, and during that year occasionally discussed other papers, but he was never again as active in the Society as he had been in its early years. One of our few active members old enough to recall any of these circumstances ascribes most of this trouble to professional jealousy and rivalry over Dewees' active practice in Salina, although granting he had come to Kansas after having been tried in Pennsylvania for the murder of his wife. This was the end of the Dewees affair as far as the records are concerned, but throughout these years there are echoes of various personal disagreements.

While practicing in Salina, Dr. W. S. Harvey brought to the attention of the Golden Belt Medical Society the fact that he had been expelled from the Central Kansas Society on charges of some sort brought against him by the Saline County Society. A committee was appointed to investigate but never reported, and the affair was apparently forgotten. Similarly, in 1892, Dr. T. B. Ross, of Abilene, was accused of something which the minutes do not make clear, but at a later meeting these charges were withdrawn and Dr. Ross' resignation was presented and accepted.

Evidently the Society prospered in spite of all this early trouble. Following the original meeting of February 5, 1889, appear the minutes for the meeting in Junction City, March 19, 1889, in which the Phillips-Dewees affair threatened to disrupt the organization. At this meeting Drs. Daugherty (chairman), Hazlett (secretary), G. E. Harvey, Norton, Steadman, Phillips, Browne, Dewees, and Sawtell were present. The disagreement, as noted above, concerned including Saline County in the Society, and it was decided the word "worthy" would continue to be used. To quote again:

> Dr. Phillips read a letter from the Saline County Medical Society protesting against the organization of the Society. Dr. Sawtell, of Gypsum, also asked that the society be abandoned and that the gentlemen present join the Central Kansas Medical Society.

However, on ballot, the report of the committee recommending immediate organization was accepted, and a committee of Drs. Harvey, Steadman, and Browne reported nominations of Dr. W. N. King as President; P. Daugherty, Vice-President; and E. E. Hazlett, Secretary-Treasurer. These were all elected unanimously by acclamation. Drs. Harvey, Steadman, and Hazlett were appointed at this time to draw up the Constitution and By-laws.

On May 15, 1889, the third meeting was held at the City Hall in Abilene, with 12 men present. Dr. Steadman reported on the Constitution and By-laws, which were adopted with the name, "The Golden Belt District Medical Society." Dr. Steadman was elected Second Vice-President, and Dr. Gunn became Treasurer. At an adjourned meeting that evening, with ten present (two Salina men had apparently gone home), various committees were appointed as follows:

Election Committee
Dr. Crowley, Salina
Dr. W. S. Harvey, McPherson
Dr. Felty, Abilene

Ethics Committee
Z. T. Harvey, Council Grove
Dr. R. M. Hays, Junction City
Dr. Austin, Abilene

Publication Committee
Drs. Hazlett, Ross and Kaufman, all of Abilene

Executive Committee
Dr. Gunn, Chapman
Dr. Browne, Salina
Dr. George Harvey, Junction City

The list of charter members was closed at this time. A program was arranged for the next meeting, which was set for Abilene, in spite of a telegram received from "gentlemen in Salina" inviting them to hold the next meeting in Salina.

At this time, 12 men (those present at the morning meeting) paid the initiation fee of $2.00. Some time later three others joined, and on July 4, 1889, notations indicate two more paid the initiation fee, making a total of 17 members. One hundred copies of the Constitution were ordered printed, so the founders apparently had in mind the formation of a large society.

Thus we see that 50 years ago next month, the Golden Belt District Medical Society, with the adoption of its Constitution, became a going concern. On July 1, 1889, the first regular scheduled meeting with a planned program was held at Abilene. Times have changed and men have died in those 50 years. Kansas and the practice of medicine have altered irrevocably for better or for worse. 1889 has become 1939, and still the Golden Belt meets on the first Thursday in April for election of officers, and quarterly for the advancement of the science and fellowship of medicine as envisioned by that group of early prairie practitioners.

Occasionally, the July meeting has been omitted because of hot weather, indifference, or someone's carelessness. Only once (during the war and influenza pandemic) have two successive meeting dates gone unrecognized (October 1918 and January 1919). Through all the succession of officers, good, bad and indifferent,

who have had the honor of serving the Society, only once has a call failed to go out on time for the annual meeting in April. In 1901, Dr. J. W. Neptune, as First Vice-President, called a meeting on April 18, and saved the Society from a lapse which might have proved permanent when the President and Secretary evidently lost interest. According to the minutes, 194 meetings have been held since the two preliminary organization meetings of 1889. Quarterly meetings for 50 years would total 200, but the July meetings were omitted in 1892, 1898, 1900, and 1904, and the October 1918, and January 1919, gatherings were skipped. Salina has had the honor of being host at the greatest number of these meetings (43), with Junction City (38) and Abilene (28) following. Manhattan, which was not a host until 1908, has had 22 meetings since then, and Topeka has had 20. Solomon hosted ten meetings, Wamego eight, and Ellsworth and Herington four apiece. Tescott hosted three meetings, and Gypsum, Hope and McPherson each hosted two. Minneapolis, Council Grove, Chapman, Ft. Riley, and Hays have each entertained the Society at one meeting.

It can be readily seen that the main line of the Union Pacific Railroad is the main street for the Golden Belt Society. I was at first puzzled by the activity of men from Council Grove during this early time since Morris County has furnished only a few members in recent years. However, a little study of Kansas history revealed the fact that the Katy Railroad was built from Junction City southeast, and did not reach Emporia for several years. Naturally, then, these men associated themselves with the practitioners of the Kaw Valley, and for 50 years the history of the Golden Belt has been the history of medical practice in the valley of the Kaw and its tributaries.

This unusual record of only four hot weather omissions (if we ignore the abnormal circumstances of 1918-1919) is one we can all take pride in, but which is particularly a tribute to the secretaries of those early years. In reality, the history of the Society is not only recorded, but also made by these secretaries. I carried on humbly in the tradition of my elders, as secretary in 1936, and am proud to be one of that group.

The secretary of the last decade or so has, most likely, a sorry conception of what those early officers faced. Men might be present and papers absent, or papers sent in while their authors remained at home, or there might be no sign of either. On the other hand, "voluntary papers" might appear when least expected, and of course, perversely at the close of a full program. On April 4, 1895, the minutes record that a "paper on influenza by Dr. Dewees was received and for want of time was laid on the table until next meeting." On January 8, 1891, the secretary cheerfully reported that "Dr. Wall, whose name appears on the program, for a paper on 'Injuries of the Eye,' came with good intentions but became frightened in the morning at the rapid falling snow and returned home before our meeting, hence we missed this talk." On October 6, 1896, the following is recorded: "Dr. G. E. Harvey being first on the program, commenced his paper on rheumatism, but being called away the conclusion of the paper and discussion was postponed till he should return." Thus, the poor secretary could not even be sure of his program once it was started. Late arrivals also added to the confusion, as is evidenced by the following notation in 1890: "Dr. Guibor requested Dr. Dewees to read his essay again in as much (sic) as Dr. Adams was not present in the afternoon but had expressed a desire to hear it; Dr. Dewees willingly responded and Dr. Adams discussed it at length in a very interesting manner, as did also Dr. Guibor and Dr. McClintock." On October 6, 1893, the officers faced an entire blank: "As none of the gentlemen on the regular program were present, and as there was no further business before the house, the President called for volunteer papers or case reports, to fill in time until such gentlemen would arrive." This was apparently cheerfully done. Similarly, on January 2, 1890: "Dr. Daugherty begged to say for Dr. Hays that he had prepared a paper but had as yet incompleted rewriting and would promise to read it at next session."

The present-day secretary-treasurer who works his own private secretary overtime for the Society, and who frets over his mailing list and annual reports, will be interested in knowing that for several years the secretary was paid a salary of $5.00 a quarter. When this custom began and when it stopped are not recorded in the minutes, but from about 1903 to at least 1922, the secretary was a salaried employee.

Attempts have been made at various times to arrange programs through committees to have a certain percentage of the membership responsible for papers at each meeting. Voluntary contributions and general discussions have been encouraged at times, but always the job has fallen back on the secretary to bring in outside speakers, to coerce the well-meaning but procrastinating member into producing a paper, or to arrange an occasional talk by a layman; in other words, to see that the Society functions with planned programs.

An analysis of these programs through the years, with some attention to the background and general history of the period, and a few personalities interlarded where possible, will probably give us a hurried but accurate picture of the Society and its growth.

In 1889, Geary County was still Davis County in honor of Jefferson Davis, and young Dr. L. R. King

was in Cook County Hospital in Chicago, disguised by a full beard, a silk hat and a long, full-skirted coat. Dr. Hazlett, of Abilene, was Secretary of the Golden Belt and was arranging programs with papers varying from "Diseases of the Nervous System and Their Treatment" to "Cholera Infantum." The speakers were all members of the Society and their papers were presented as "essays." The meetings closed with a general discussion on some such topic as arthritis or pneumonia, nearly all of the 10-13 members present taking part on etiology, symptomatology, or treatment.

In 1890 and 1891, Dr. F. B. Browne of Salina was secretary, and the papers were confined to more restricted topics, such as "Complete Perineal Lacerations," and "Strabismus." At the first Topeka meeting on April 9, 1891, a group of Kansas City men were brought in as the first speakers who were not members of the group. In addition, Dr. Lanphear, of Kansas City, introduced at this meeting an innovation by demonstrating intestinal surgery on a dog before the Society. For years, these outside speakers were elected honorary members of the Society, and for a time this list was almost as long as the active membership roll.

In 1890, the organization was recognized as a component part of the state medical society and elected delegates to the meetings of the Kansas Medical Society and the AMA. The *Kansas Medical Journal*[3] was made the official organ of the Society, printing its minutes and presumably the papers presented at its meetings.

Also in 1890, the first case was offered for diagnosis, a child of 13 months. The committee reached the conclusion that it suffered from tabes mesenterica, but suggested little in the way of treatment. These clinical presentations were a major part of the programs for many years, members apparently offering diagnostic problems for solution by the Society. As late as 1914, Dr. Carr, in his annual report, complains of the paucity of clinical cases presented, "not over half a dozen in the entire year." In 1891, this clinical work was carried a step further when, to quote the records, "Dr. McClintock was granted the opportunity to make a clinical examination before the Society, and Dr. King was given a vote of thanks for appearing as the patient."

In 1891, the word "district" was dropped from the Society's name and at the same time the membership was opened to "physicians within the state," instead of the previously restricted area. There is no indication in the records of how the name "Golden Belt" was selected, but it is interesting to note that in the early automobile era of a decade or two later, U. S. Highway 40 ran directly through the center of this territory and was known as the Golden Belt Highway.[4]

In 1892 came another innovation. The Society met in joint sessions at Topeka and Junction City with the Eastern Kansas Medical Society. Since this increased the attendance from a previous average membership of 10-15 to over 80 at Topeka and 25 at Junction City, it was considered quite advantageous. These combined meetings have been held occasionally since then, but the Golden Belt has always taken precedence over the other Society, and has maintained its identity while many of the other organizations have passed into history.

In 1893, the By-laws were amended to admit the resident and assistant surgeons at Ft. Riley to active membership without payment of the usual dues. Through the 44 years that have followed, with the army turning its attention successively from Indians to Spaniards and the Phillipines, then to Mexicans and Germans, and finally to anti-aircraft and motorized cavalry, happy relationships have continued between the medical men inside and outside the reservation. In 1912, the members were taken from Junction City to the fort for a demonstration of salvarsan administration, and 1918, with civil practice disrupted by the war, the January meeting was held at Fort Riley with the Medical Corps presenting the entire program. Off and on through the years, the Army Medical Corps has furnished speakers for our programs, particularly at the Junction City meetings.

In 1893, Dr. E. B. LaFevre, of Abilene, was elected to the combined post of Secretary-Treasurer and remained in this important position until 1899, when he dropped out of participation and offered his resignation. This was accepted, and he was made an honorary member. A year later he appeared again on the program, and in 1901 he was appointed librarian at his own suggestion. In the reorganization effected in April of 1901, by Dr. Neptune, after the officers failed to call their annual meeting, Dr. LaFevre was again made Secretary, and apparently remained active until shortly before his death in 1907.

On October 3, 1901, a notation in the minutes records that: "The matter of a motto-device for use on stationery, programs, etc., was taken up and a drawing suggested by Dr. E. B. LaFevre was presented and adopted." The printed program of the meeting January 2, 1902, which is fortunately preserved shows the familiar caduceus surrounded by the belt and the motto, "Juncta Juvant," which is still in use on our stationery and programs. "Juncta" apparently comes from the Latin "jungo," meaning joining or yoking, and "juvant" from "juvo," to benefit. The golden yellow color so familiar to us in the past few years was evidently not introduced until Dr. J. D. Colt's secretaryship in 1919.

Since then it has become a standard feature. The etching, as far as I know, has been in use from 1901 to the present, and cost the entire sum of $4.50. Printed programs have been preserved for many of the meetings, the earliest in the records being that for April 3, 1890. Prior to the introduction of Dr. LaFevre's "motto-device," the printer's discretion apparently knew no bounds, and the scientific program was embellished with birds, flowers, lovers holding hands, or whatever the shop had to offer. For a time, a simple government postcard was mailed to members showing the anticipated program, but in an effort to stimulate attendance in 1908, the Society adopted Dr. Colt's proposal for a "more ornate program mailed under a two-cent stamp."

Some of Dr. LaFevre's annual reports as secretary reveal much of the behind-the-scenes activities of the Society. In 1896, he complained in no uncertain terms of a "lack of interest on the part of a large portion of our members," especially "the indisposition to prepare and present their proper quota of papers." He then proceeded to point out that reports on new and experimental work, so difficult to research while practicing medicine for a living, are by no means necessary, and that every member somewhere in his practice is bound to encounter out-of-the-ordinary cases which cannot help but teach a lesson if presented as a simple case report. He closed this arraignment with the remarks:

> The sessions are interesting or the reverse only as we as individuals make them so. We are the meeting and the meetings consist solely of us. We have as good a medical society as exists in the state and our past work will compare favorably with any, but more enthusiasm must be evinced in order for this to continue.

Many of Dr. LaFevre's complaints have continued to be true throughout the years, and an occasional exhortation to the members to contribute each his own share might well be in order. I sincerely hope his favorable comments on the work of the Golden Belt are as true today as they were 43 years ago. Personally, I am inclined to think they are. I believe much of the credit must go to this man—a Kansas practitioner whom I never knew and who died when I was a small boy—who guided the Society through those perilous years when the original enthusiasm of Drs. Hazlett, Daugherty, and their helpers had waned and before the weight of reputation and tradition had developed to carry the Society by sheer momentum through its necessary lean years. His seven terms as secretary far exceed those of any other officer the organization has had, and his less tangible services have made the Society in many ways a memorial to his undoubted ability.

The 19th Century came to a close. The Chicago World's Fair of 1893 became history, the Maine was sunk, Dewey sailed into Manila, and with William Jennings Bryan and Mr. Dooley filling the papers, the 20th Century became a reality. In 1900, the United States had ten miles of paved roads, and I suppose a few foolhardy doctors were planning to give up the old horse and try to practice medicine by means of the new autos. My own opinions on transportation in 1900 were confined to baby buggies, but I doubt if many central Kansas doctors had as yet traded the old mare for a Stevens-Duryea or a Chalmers.

Through the last years of the old century, the Golden Belt had become almost a Saline-Dickinson County Society, meeting at Salina, Abilene and Solomon practically in rotation, with the fourth meeting at Enterprise, Hope or Herington. For over seven years, no meetings were held in Junction City, and from 1894 to 1901 none were held in Topeka. The attendance during this period ran from 12 to 20 at each meeting. In 1900, Dr. Crawford, of Council Grove, was elected President and Dr. Shenck,[5] of Solomon, Secretary. No July meeting was held that year, and the October meeting had only two planned papers. The mid-winter session at Abilene, in January 1901, was well attended and an excellent program of five papers given. Following this, however, no annual meeting was planned, and for the only time in 50 years, the first Thursday and the second Thursday in April went by and no meeting was held. Fortunately, a young man named J. W. Neptune, who had joined the Society in 1895, and had only recently moved from Chapman to Salina, had been elected First Vice-President in 1900. On his call, 13 members met at Abilene on April 18, 1901, and the organization was rejuvenated. Dr. J. C. McClintock, of Topeka, preceptor of several of our present members and *de facto* head of the medical school at Topeka (Kansas Medical College), was chosen President.

The July meeting in Topeka was attended by 34 men. It lasted all day with surgical, eye, and nerve clinics at Christ's Hospital in the morning, followed with a lecture by a Kansas University professor on extinct animals, papers and clinics on appendicitis, anatomy of the nasal sinuses, mammary tumors, various drugs, and other topics for a total of 12 presentations.

From this date onward, through the next two decades, the average yearly attendance rose from 17 or so to almost double that, and the Society began to assume a less local character, to hear papers of more general interest and value, and to concern itself less with personal difficulties and animosities. The Junction City group again became active, and while the annual meeting continued to be held regularly at Abilene, Wamego

and Manhattan began to play host occasionally. Topeka and Salina continued their parts, leaving only an occasional meeting for Solomon, Hope, Enterprise, and Chapman. Dr. McClintock was president for two years, and from this point on many of the officers' names become familiar to all of us: Dr. E. R. Cheney, second vice-president in 1902 and president in 1905; Dr. L. R. King, treasurer in 1903 and vice-president in 1904; Dr. H. N. Moses, treasurer in 1904 and 1905, secretary in 1906, and president in 1907; Dr. T. R. Conklin, vice-president in 1905; Dr. L. S. Steadman, secretary in 1908 and 1909, and president in 1911; Dr. O. D. Walker, vice-president in 1909 and president in 1910, and so on. In 1910, a youngster named J. D. Colt from Manhattan had become second vice-president and two years later, under Dr. Neptune's presidency, the second vice-president was a fellow named Carr, from Junction City.[6] These last two really belong—if they belong at all—in a later decade, and 1910 is a good point to stop for another summary.

This was the year Koch died, and the year Ehrlich tried out salvarsan. Yellow fever and malaria were under control in Panama, and the completion of the canal was in view. The Foods and Drugs Act, the Wassermann test, and x-rays were becoming commonplace.

The roster of members, speakers, and officers grows increasingly familiar as we pass through the war torn years from 1910 to 1920. Drs. T. R. Conklin, H. N. Moses, and W. F. Bowen had appeared frequently on the programs prior to 1910. In 1905, Dr. George Seitz discussed typhoid fever before the Society. Dr. O. D. Walker talked of brain syphilis, and Dr. O. R. Brittain began to present papers. However, many of the speakers prior to 1910 are only memories to us. Some of the Topeka group, such as Drs. Minney, Magee, Alkire, and Lindsay are familiar to me from the signs I used to read as I rode my bicycle down Kansas Avenue.

From about 1910 onward, however, the majority of the members are familiar, and many are still active enough members to possibly resent being included in such a historical presentation. Dr. J. D. Colt (Sr.) was discussing eye work at this time; Dr. W. A. Klingberg appears first in 1910; Dr. Walter Carr had a paper on nephritis; Dr. I. M. Droll presented a paper on nervous exhaustion; and Dr. W. M. Reitzel's name appears on the program. Dr. W. E. Mowery discussed appendicitis in 1911, and Dr. W. A. Smiley had a part on the program of that same year. Our most widely known and quoted member, the Horse and Buggy Doctor (A. E. Hertzler), first addressed the Society in 1912 on the subject of breast tumors. In 1913, the elder of the Vermillion boys (C. D.) appeared with a paper on tetanus, and in the same year appears the first mention of an O'Donnell—Alfred, talking on hemorrhagic pancreatitis. The elder of the two Ben Brunners was on the program twice in 1914, and Dr. C. F. Menninger discussed diabetes that same year.

This brings us to the delightful father and son relationship which has always been an outstanding part of the Society, in my estimation. Dr. W. S. Harvey, a charter member, Dr. J. K. Harvey, his son, and Dr. E. E. Harvey, his grandson, represent three generations of membership. Dr. L. S. Steadman was the first son to follow his father as a member. In any such consideration, of course, the first citizen of Tescott (C. D. Vermillion) leads off. Secretary in 1921, and president 1922, he was succeeded by Earl as secretary in 1933 and president in 1934, and has had two other sons, Dale and the late Carl as fellow members. Dr. J. D. Colt,[7] secretary in 1919, and president in 1920, was followed by Jimmy[7] as secretary in 1924, and president in 1925. Dr. C. F. Menninger, while not an officer himself, has had two sons as officers: Karl, secretary for three years and president in 1924, and Bill, secretary in 1930 and president in 1931. Anyone who can keep the relationship of the O'Donnells straight is probably an O'Donnell himself. At any rate, in 1917 and 1918, Alf was secretary, and in 1919, president, while A. E. was treasurer from 1917 to 1920, and Clair president in 1929. The original O'Donnell, Henry, was a member from 1894 until his death in 1908, and F. W. O'Donnell of Junction City was a member from at least 1902 to 1905. Drs. J. W. Neptune, president in 1912, Walter Carr in 1914, W. A. Smiley in 1917, and Ben Brunner in 1922, all have sons in the Society. Dr. T. R. Conklin has had two or three sons in the membership roster—I doubt if he knows how many himself—while the Cheneys, the Caves, the Kienes, the Jenneys and others I have forgotten or overlooked make up a large share of our active membership.

For three years, 1910-1913, the late Dr. L. O. Nordstrom of Salina was secretary, and in 1916 he became president. During his term of office, the organization was unusually active, and Dr. P. T. Bohan began to hold his medical clinics along with surgeons from Kansas City and Chicago. During this decade, the average yearly attendance increased from 30 to 40, with the exception of 1917 and 1918. At times, as many as 50 members and guests were present. In April 1911, a demonstration of salvarsan treatment (for syphilis) was given for the Society at Topeka, only a year after Ehrlich and his assistants first used the drug on human beings. In 1917, moving pictures of surgical procedures and examination techniques were first presented to the Society.

During Dr. Nordstrom's secretaryship, the Society became quite active politically over the ambitions of Arthur Capper, whose ethics, or lack of them, had never prevented his accepting patent medicine advertisements or propaganda for a temple of health conducted in Kansas City by a quack named Carson. During the governorship campaign of 1912, the secretary wrote all medical societies in the state regarding Capper, and a committee was appointed to determine if Capper was a discipline of Christian Science. In the minutes of January 1913, appears a copy of a smug telegram which congratulates George H. Hodges for his defeat of Capper in the race for governor, and, by implication, accepting some of the credit for Hodges' victory. In later years these public ambitions seem to have been discarded, and, except for an attempt in 1924 to assess the membership $10 apiece for political purposes and an occasional report from one of the state society officials, the Golden Belt has concentrated on the objects outlined in the Constitution of 1889 and reaffirmed in 1898, namely, the "advancement of the science and art of medicine and the promotion of harmony, social fellowship and fraternity in the profession."

With very few lapses indeed, the Society can feel gratified in following these motives of its early founders. While all of the Society's fathers—Daugherty, Dewees, George Harvey, Hazlett, C. E. Steadman, and others—have passed to the beyond, where no emergency telephone calls disturb their slumbers and no breathless boys announcing the onset of labor drag them out into unfriendly Kansas weather, the aims and objectives they outlined in 1889 have served as guide posts for half a century.

The early secretaries were more explicit about the efforts to promote the professional welfare of the members than about the encouragement of good fellowship. Occasionally, however, glimpses are given or can be read between the lines which show these old fellows as warm-blooded human beings even with all of their heavy beards and frock coats. A notation appears in 1902: "The Society having time to burn, Dr. Curtiss read a humorous extract and gave verbally two anecdotes." Since Dr. Curtiss was secretary and wrote the minutes, it may be well to interpret this with caution.

In the minutes for 1908, however, are found the following solemn notations which allow only one conclusion. One page contains the following unsigned resolution:

> Whereas, the latest word of Science declares alcohol to be poison, and
> Whereas, recent experience is proving that it is by no means the necessity it has been supposed to be in meeting disease, therefore
> Resolved, that its use as a medicine should be guarded with the most scrupulous care and avoided whenever there is a possibility of less dangerous substitute; also that it should, under no circumstances be administered in diseases by those outside the ranks of the medical profession.

Explanatory comment is as follows:

> At the request of Mrs. Case, of Enterprise, a representative of the WCTU, she was allowed to make some remarks on "Non-alcoholic Medication in Disease," and offered a set of resolutions (which will be found attached to next page). Action upon the resolution was deferred until later, until the society might repair to the basement of the hotel, where it was thought a more proper appreciation might be had of the subject. However, it was afterward ordered that the resolutions should be laid on the table, and all other articles, materials and substances removed therefrom, in order to give said resolutions undeniable sway.

Returning to our chronology, we find ourselves in the modern or post-war era with members, officers, and programs familiar to the majority of us. I will accordingly hurry through this period from 1920 onward, in order to avoid classifying many of us present with high-wheeled bicycles, pompadours, and college boys playing mandolins. In 1923, when insulin reached Kansas (along with Mah Jongg), Dr. Klingberg was president of the Society. In 1926, the year I began my internship and the last Model Ts were made, Dr. Cave was president. The next year, Dr. Charlie Stillman sneaked in without serving the usual apprenticeship as secretary. In 1928, he was succeeded by Dr. Brittain, and in 1930, Dr. Kroesch was rewarded for his two successful terms as secretary by being promoted to the presidency. Since that year it has been almost a tradition to make each man serve a year as secretary before he has been promoted to the presidency. The programs, the policies, the workers, the loafers, those who stress the fellowship, and those who emphasize the scientific side during these later years, you know as well as I.

One major change which shows some promise of becoming permanent was inaugurated in 1937, when the July meeting was scheduled for evening following a dinner. The July meeting has always been plagued, first by interference from the celebration of Independence Day, and, secondly, by the heat of Kansas' famous, or infamous, summers. I have already pointed out that except for the meetings missed in 1917 and 1918, the only omissions from our regular quarterly schedule have been four mid-summer sessions in the early days. The following appears in the minutes for April 1895:

> Dr. J. W. Felty suggested that inasmuch as the next meeting would regularly occur during the intense heated term, that it be omitted and there be no more meetings until the regular October one. Discussion of this question elicited

the fact that it was the enthusiastic desire on the part of the society to continue the meetings in their regular order, and that the next meeting be held in Salina the second Thursday in July 1895, instead of the first Thursday, as that day falls on a national holiday.

Again, at the very successful all-day meeting at Topeka on July 3, 1901, which I have already described, the secretary adds the note, "Owing to the extremely torrid weather, the discussions lacked, somewhat, the usual vim and interested aggressiveness." A variation with which I am not familiar is indicated by Dr. Steadman's notes for July 1, 1909, which read: "The Golden Belt Medical Society met in regular session in Solomon and long may those Solomites wave. For true hospitality and fried chicken they have no equal. The idea of holding the session under the trees in the park was excellent."

The January meeting is the one at which attendance is necessarily uncertain, and this, of course, has been more pronounced in later years, when cars have replaced the Union Pacific as the usual means of conveyance to meetings. On January 8, 1891, appears the following in the minutes: "Owing to the inclement weather and the delay of trains, it was moved and seconded that we suspend the rules and devote the afternoon session to verbal reports of cases in practice, and reserve the program until the evening session."

In January 1937, the Salina meeting was attended by only 36 members and guests, instead of the recent average of 55 or 60, entirely because of the weather. We have already seen how the secretary and the society were cheated out of Dr. Wall's paper in January 1891, when that gentleman "became frightened in the morning at the rapid falling of snow, and returned home." Many of us who spent the night of April 8, following the meeting at Junction City last year, sitting in snow banks or walking down drifted roads, and who got home, as I did, by freight train April 9, wish we might have had Dr. Wall's foresight. Kansas weather vagaries are obviously not confined to January and July. Nevertheless, the April and October meetings are as a rule better attended than the mid-summer and mid-winter meetings.

I have quoted at length from the secretary's minutes and reports, but it is well to remember that other important official, the treasurer, who, until an amendment to the Constitution in 1925, was a distinct individual. The dues for 50 years have remained at $4.00 per year, with a $2.00 initiation fee, but with no set expenses and a membership at times running well over 150, the balance on hand has occasionally mounted to significant figures, and the problem of investing it has been a serious one. In his annual report of April 7, 1892, the treasurer reported $1.45 in the treasury. By 1907, a motion was needed to invest $100 of the Society's surplus funds, and the next year this amount placed at interest was increased to $150. In 1910, a committee was appointed to suggest some way of spending the extra money on hand and in 1911, at the annual meeting, they proposed that the $300 then available be used to conduct clinics at the Society's meetings. As far as can be determined, this was done but once, when a man from Chicago was paid $40 for conducting a medical clinic. In 1934, this balance reached a maximum of $423.21, which was somewhat reduced by the purchase of a projecting lantern and screen. In 1937, the organization supplied a free dinner for the members and guests at the Manhattan meeting, and, as I recall, successfully depleted the treasury somewhat further. Until 1934, it had been the custom for the members in the town where the meeting was held or the local society to furnish this meal and entertainment but, probably wisely, the plan advocated at that time of having each man pay his own way has persisted.

The records of the early treasurers are not as uniformly happy as those of the secretaries, and several interesting controversies over finances are recorded in the minutes. In April 1893, the president was instructed "to correspond with ex-treasurer Kaufman," (I quote from the minutes) "requesting the remittance of monies due the Society still in his hands." And in July, this officer reported that Dr. Kaufman had agreed to remit the same, but that so far he had not done so. Again, in April 1900, it was moved that Dr. Donmyer be appointed a committee of one to collect monies in the hands of Dr. Ketchersid. At the next meeting, friends of Dr. Ketchersid moved that this be stricken from the minutes, but finally compromised on an apology to the doctor. At the January 1902 meeting, two years later, Dr. Ketchersid was present and on request explained the matter of $2.00 dues, which remained unpaid, as follows: "Dr. Ketchersid took the floor saying that while he was president of the Society, he had been to some expense through the purchase of programs for some of the meetings," and while he was not sure of the amount, he was certain it exceeded the $2.00 charged against him. Accordingly, the Society generously credited him with the amount.

Possibly, these treasurers were no worse at their jobs than some of the secretaries, the difference being that the latter made the records and thus appear in a better light. I have paid tribute to some individual secretaries and to the group as a whole, but the fact remains that many must have been far better with the scalpel and the forceps than with the pen. The matter of handwriting, in which our profession is justly notorious, has been less of a problem than was expected, since the minutes have been chiefly typewritten or printed in some medical

journal since 1893. Unfortunately, however, some secretaries failed to keep an exact record of members admitted, and it is impossible at this date to say with certainty when some men joined the Society, and in some cases whether or not they were ever members. After considerable work on the records, partly in eliminating duplications of men who have joined the Society a second and third time after allowing their memberships to lapse, and partly in accounting for members like Harold Neptune and Merrill Mills who appeared miraculously on the treasurer's lists with no record of their admission, rather in the fashion of Minerva who sprang full panoplied from the brow of Jove, I have an admittedly incomplete list of 483 members. The largest number admitted in any one meeting appears to have been the group of 42 taken in on July 6, 1922, evidently in response to the 800 questionnaires sent out by Dr. Karl Menninger to all the doctors in northern Kansas. Many of the members acquired under Karl's high-pressure evangelism remained in the fold only a short time or took a limited part in the activities, but among them was the leading Democrat pathologist of Kansas, John Lattimore.

There has been a good bit of confusion in the Society as to the seniority of our elder members, based usually on similar names. At present, no charter members are active, or, as far as can be determined, still alive after the lapse of 50 years. Dr. L. R. King of Junction City has been confused with Dr. W. N. King of Abilene, a charter member and the organization's first president, but the Abilene man was considerably older and has been dead many years. Dr. L. R. King was made a member of the Society July 3, 1890, shortly after the close of its first year, and only a few months after his graduation from medical school. He was apparently the 41st member admitted. He is thus the patriarch of the Society in point of years, and on his retirement from practice was made a life member, in January 1939.

However, Dr. J. W. Neptune holds the seniority record in terms of continuous membership, since Dr. King was inactive in the association a number of years and was not reinstated until 1902. Dr. Neptune began attending the Society as an undergraduate, working under Dr. Ketchersid of Hope, and in July 1894, four months after his graduation, he applied for membership in the Society while practicing in Chapman. For some reason this application was not acted upon until January 3, 1895, and Dr. Neptune was admitted as the 68th active member. I have already mentioned his service to the Society as an officer and as a contributor to the early programs. He frequently appeared discussing skin diseases and therapeutics. His invaluable work in 1901, in reviving an organization neglected by its president and secretary, makes him in a way the godfather or wet nurse of the Society.

Dr. W. S. Yates, of Junction City, who died only a few years ago, became a member in April 1897, and is remembered by many of us for his long years of activity. Dr. E. R. Cheney, joining in October of the same year, is next in point of continuous service, and is entitled to a seat with the elders. Dr. T. R. Conklin first joined in 1898, while practicing at Oak Hill, but has not been a member through all these years, although since 1931, at any rate, he has presided over the extra-curricular activities in Abilene in grand fashion. Dr. W. F. Bowen joined in 1900, Dr. L. S. Steadman in 1902, and Dr. W. A. Klingberg and Dr. J. H. Winterbotham joined in 1903 and are still very much alive, or were known to be until recent years. Dr. H. N. Moses, who became a member October 3, 1901, has had a long and active membership in the organization, holding office and frequently appearing on the program.

With Dr. C. D. Vermillion in 1903 and Dr. Ben Brunner in 1904, we reach the modern period and classification among the elders would be distinctly inappropriate. Drs. N. N. Dieter, George Seita, Brittain, Walker, Bob Stewart, Reitzel, Chaffee, J. D. Colt, Sr., Walter Carr, C. F. Menninger, C. M. Jenny, M. J. Brown, and Hinshaw are some of the members joining prior to 1910. Since 1910 the list is large, although many members have been lost by death, removal, and in some cases loss of interest.

In analyzing the towns which have supplied members to the Society, I took only the residence at the time of joining, since some members have been rolling stones and there has been a natural tendency to gravitate to centers like Topeka and Salina. Topeka has furnished 68 members (by far the largest group); Salina follows with 49; Manhattan is third with 30; Abilene, 21 and Junction City, 18, are respectively fourth and fifth. Then follow Solomon, 14; Clay Center, 12; Concordia and Wamego, 11 each; Herington and Minneapolis, 9 each; Chapman and McPherson, 8 each. Enterprise, Hope, Kansas City, Lawrence, and Wakefield have each furnished 6 members, and Lindsborg 5. Six cities have supplied at least four members and three members each have come from 11 different towns. Twenty-two places have produced two members each, and in addition to all this, 75 Kansas cities, towns, and villages have been represented by at least one member. This total of places of practice at times of admission to the Golden Belt is 135, varying from Pratt in the south, to Hanover in the north, and from Leavenworth and Eudora in the east, to Colby and Dighton in the west; and ranging from the

cities of Kansas City and Wichita, to villages I have been unable to locate on the map. I was surprised, and I think you will be, to know how representative of the state of Kansas is this Society, named after her golden harvests.

If there is one criticism apparent after this study of the membership, it is that the turnover has been too rapid. Too many men have joined and dropped out without leaving the marks they might have, too many have paid the small initiation fee when the Society met in their home towns and then neglected to attend the meetings elsewhere. It is the old reliable who attends three or four meetings a year, who takes part in the programs, who holds office partly for the honor it brings him and partly because he knows someone must arrange the program and wield the gavel, who has made the organization what it has been for 50 years, and who conversely has gotten the good from the fellowship, the fried chicken, the report on the odd case down in the hollow, and the paper on the newer things in medicine. The historian's place is not to recommend, but the suggestion here is obvious: the cultivation of those new members who show promise means the life of this Society for the coming 50 years.

It has never been the aim of the Society to emphasize scientific attractions at the expense of good fellowship, practical considerations, or friendly professional discussion. Nevertheless, it is surprising to note the subjects presented through the years. In 1894, Dr. Clement, of Marquette, discussed "Reducible Hernia Treated by Hypodermic Injections of Irritants." In 1891, Dr. Boyd read a paper describing an ovariotomy performed successfully by Dr. Ketchersid, of Hope, an early and active member of the association. Roentgen did not discover the x-ray until 1895, but by April 7, 1898, the minutes record that, "Mr. Arthur Lee, an expert electrician of Topeka, gave a very interesting exhibit of the latest improved x-ray apparatus, including a fluoroscope, permitting each one present to personally study a number of cases of osseous deformities and tuberculosis." In 1896, Dr. Felty discussed Raynaud's disease before the Society and included a case presentation. In 1907, the antitoxin treatment of diphtheria was considered with some opposition to its use being brought out in the discussion. In 1912, Dr. Carr and Dr. Steadman joined in a report on pituitrin in obstetrics. The demonstration of the use of arsphenamine in 1911 and 1912 has already been mentioned. In 1914, Dr. Simonton, of Wamego, had a paper before the Society entitled "Organotherapy." Endarteritis obliterans was described at the July meeting in 1919, and insulin in October 1923. In 1926, Bill Menninger discussed the malarial treatment of paresis. All these dates show a rapid infiltration of the short grass country with information from Europe and the Atlantic seaboard.

In addition, the occasional conclusions recorded are of interest. In 1894, Dr. Searl, of Solomon, had a paper on materia medica, and, quoting the secretary:

> He showed the utter uselessness and harmfulness of the vast amount of new drug-compounds thrust upon the profession and urged the physician to more studious attention to the drugs of which we have some knowledge, such as are contained in the pharmacopeia. He believed that until the profession quit experimenting with every new nostrum launched upon the market, the manufacturers would not cease to encumber us with their truck.

This was almost 45 years before elixir of sulfanilamide. In a similar vein, Simonton, while discussing a paper entitled "The Dual Action of Drugs," said he was "of the opinion that as we grow older in medicine we use less drugs, and thought that we would eventually teach our patients to live right and in the future psychotherapy and the sera would play the larger part in therapeutics." This was in 1909, while Karl Menninger was still the pride of Topeka High School and Bill was shooting paper wads at Polk Street School in Topeka.

Many of the older papers discussed the problems that were real to the men of those days: "Cholera Morbus," "Summer Complaints of Children," "Typhlitis," "Malarial Diseases in Children as Seen in Central Kansas," and the like are the subjects of many presentations. In 1891, Dr. Guibor reported a case of adenoidal vegetations in a child, and when a visitor from Kansas City complimented him and advocated the use of a curette in removal of adenoids, Dr. Guibor responded that he "considered the finger nail (sic) as good an instrument as any for their removal in young children." In 1893, the Society listened to a dissertation on "Uric Acid in the Blood as a Cause of Heart Disease," but as this is still considered of importance in some quarters, it may be looked upon as up-to-date medicine in 1893. In 1891, Dr. L. R. King reported a case of nymphomania extending over a period of years and asked for suggestions in treatment. No levity during the discussion was indicated from the pages of the minute book. Dr. T. R. Conklin had a paper in 1903 entitled "Mineral Waters," in which he took up the various bitter waters in a comparative way and came to the following surprising conclusion: "Of all these waters, the doctor has found Abilena (sic, Abilene?) to be far the most satisfactory. The dosage was the smallest, the action the most thorough, kindly, and efficient; and the effect upon the combined emunctories was in his judgment superior to any other cathartic water."

On December 30, 1902, the minute book frankly re-

cords that the secretary of the State Board of Examination and Registration "gave a long, rambling, disjointed talk."

While I hold no official position, I feel sure history has repeated itself this evening. However, if I have communicated to you any of the delightful atmosphere in which I found myself on going through these old records, this long, rambling, disjointed talk is partially justified.

Footnotes

1. The original manuscript has here a footnote which reads: " 'Certainly a mistake, as I graduated from it in 1894.' J.W.N." This note is typewritten, in the same style as the paper, so must have been put there when the original typing was done. "J.W.N." is Dr. J. W. Neptune, and this raises the question whether he prepared the manuscript, or just how he came to be adding such notes. Perhaps he was the one who prepared and submitted it on behalf of the Golden Belt Medical Society.

An advertisement of the Kansas City Medical College, in the September 1891 issue of the *Kansas Medical Journal* has the statement: "23rd Annual Session will begin October 6, 1891," so it apparently had been in existence for some time before this.

2. I believe that they all "passed into history" by being absorbed into the Medical School of the University of Kansas.

3. *"Kansas Medical Journal"* is not to be confused with the *"Journal of the Kansas Medical Society,"* which was founded in 1901. The *Kansas Medical Journal* was a journal published privately by Dr. W. E. McVey of Topeka.

4. A note included with the paper, written on Dr. Porter's stationery, offers a possible explanation of the origin of the term "Golden Belt."

Excerpt from *The Kaw, the Heart of a Nation,* by Floyd Benjamin Streeter, published by Farrar and Rinehart, 1941, page 240. (Part of the *Rivers of America,* L. V. Benet and Carl Carmer, Eds.)

"T. C. Henry, the 'Kansas Wheat King' who lived at Abilene from 1867 to 1873 and introduced winter wheat to this part of Kansas. In the 'Smoky Hill Valley' two miles east of Abilene next to the Kansas Pacific Railroad was the 'biggest wheat field in America,' with 10,000 acres. In the early summer of 1876, Col. Anderson, staff correspondent of the New York Herak (sic), visited Henry. Henry is quoted: 'Just before sunset we drove to an elevation northwest of Abilene overlooking the valley. The yellow grain, nearly ripe, stretched afield for miles to the east, bordered by the deep verdure of the prairie on either side. . . . My companion caught inspiration from the scene and exclaimed, "What a magnificent golden belt!" Such was the origin of the well-known and appropriate term.' "

This was copied in long hand in Pago Pago, American Samoa, in 1943, and may need checking.

5. This spelling—"Shenck"—and the location of Solomon are probably correct, but there is considerable variation in different parts of the records, the name being also spelled "Schenk" and "Schenck," and his home being not only Solomon but also Salina and McPherson!

6. Drs. Colt and Carr were men who were well known to the audience hearing this presentation. This Dr. Colt would have been the one called "J. D. Colt Sr.," the father of the one known as "J. D. C. Jr.," until a few years ago, and *his* son was "J. D. Colt V." I think they changed their names from Jr. to Sr., etc., as their fathers died, for the one called "Jr.," 20 or 30 years ago must actually have been "IV." The Carr to whom reference is made was Walter (who died in December 1975, at the age of 98) and his son was Bob Carr.

7. "Jimmy" would be J. D. Colt IV, later called Jr., and the father of J. D. Colt V.

Unless another spell of serious hot weather interferes we expect to have some letters from the various departments of the Society. Doctors, like other people, object to doing any more than is absolutely necessary when the thermometer is over 100° in the shade. The President has promised to make some suggestions for the benefit of the society. We hope however that every member will consider these pages open to him and use them accordingly. That is what THE JOURNAL is published for and we don't care to do any more of the writing than we can help.

Editorial Note, August 1901

Plaster Saints

Early Orthopedic Surgery in Kansas

W. DAVID FRANCISCO, M.D., *Kansas City, Kansas*

In these days of well established orthopedic surgery, I have found it fascinating to look back on its early beginnings in Kansas. When the art of orthopedics was beginning as a strap and buckle branch of medicine, Kansas was in a frontier era. In the 1860s and '70s, the usual medical training of the small town doctor was reading in a physician's office, the preceptorship, and his treatment of fractures was relatively crude.

As early as 1870, medical schools with two-year courses were springing up in many towns of the state. Many did not progress beyond the charter stage, but others, as in Leavenworth, were in existence for a number of years. Although fractures and railroad surgery were mentioned, I doubt if their curriculum included orthopedics as we would recognize it. However, efforts in improving medical education were being made, and three- or four-year schools came on the scene. One of the most successful of the early four-year schools was the Kansas Medical College, located in Topeka from 1890 to 1913. Medical education had its crises then too. The most serious one at this school occurred when a newly buried body was found in the dissecting laboratory. The governor called out the militia to restore order and save the school building while the faculty and students laid very, very low. Its catalogue of 1897 stated: "Orthopedic Surgery is rapidly becoming one of the most important surgical specialties. Systematic and thorough instructions will be given in pathological conditions existing in deformities as well as the most approved methods of preventing and correcting them."

L. J. Lyman, M.D., Manhattan, was listed as Professor of Orthopedic Surgery and Lecturer on Fractures in 1890, and he taught for four years, although the course name was changed to Fractures. "Orthopedic Surgery," by Bradford and Lovett was the text used. He wrote an article on Potts fractures, published in the *Kansas Medical Journal* in 1890. David D. Wilson, M.D. was the lecturer in orthopedic surgery for the remainder of the school's existence, except for the school year 1904-1905. He resided in Nortonville, and listed his text as "Fractures," by Hamilton and Stinson. His paper on "The Osseous Origin of Hip Joint Disease," appeared in the *Kansas Medical Journal* in 1897.

John C. McClintock, M.D., professor of surgery, took over the missing year, 1904-1905. He was a staunch supporter of the pioneer Christ's Hospital in Topeka. He had performed the first appendectomy in the state in 1879, and was a determined advocate of thorough cleansing in surgery.

Another four-year school, the College of Physicians and Surgeons of Kansas City, Kansas, and loosely affiliated with the old Kansas City University of the northwest part of that city, was founded in 1894, and lasted until it became a part of University of Kansas in 1905. A giant of medicine in Kansas, John Thomas Axtell, M.D. of Newton, and grandfather of present day orthopedist John Grove, gave lectures on orthopedic surgery twice a month to the fourth year students, commuting by train like surgeon and pathologist Arthur Hertzler, M.D. did a number of years later. Dr. Axtell was active in medicine from about 1880. He had much contact with cowboys, railroad men, and other early residents of Newton. He founded Axtell Hospital, one of the first in the state, and started the first nurses training program in Kansas. He also insisted on rigorous scrubbing of furniture and hands before surgery, thus being another strong advocate of asepsis. At times he used ivory screws and plates in treatment of fractures. Dr. Axtell became president of the Kansas Medical Society and delegate to the American Medical Association. His wife was a graduate in medicine of the College of Physicians and Surgeons, and became one of the state's first women doctors. After eight years of teaching, Dr. Axtell was followed by W. V. Smith, M.D., who taught operative technique as well as the use of "plaster and other orthopedic appliances."

At this time, a few blocks north, a three-year school, Kansas Medical College (Kansas City), was in existence. Its 1897 catalogue gave directions to incoming

Address reprint requests to Dr. Francisco, 155 South 18th St., Kansas City, KS 66102.

students as to the correct cable car to take from the depot, and listed a course in "Railway and Orthopedic Surgery" in its third year. No teacher was given, but the text was again "Orthopedic Surgery," by Bradford and Lovett. The catalogue claimed its three-year curriculum with a year of preceptorship was the best training for medical practice.

During this time, medical facilities in Europe were considered preeminent and a trip to Europe was part of many men's endeavors to seek the best in medical education. Also, at this time, orthopedic training was available at the Hospital for the Ruptured and Crippled in New York City, known now as the Hospital for Special Surgery, and at a few other eastern centers.

Robert McEwen Schauffler, M.D., returned to Kansas City, Missouri, in 1898, after a two-year residency in surgery in the east and a European study tour that included a visit with Sir Robert Jones. He served as secretary of Kansas City Medical College in Missouri, working with his father and with the senior Dr. Franklin Murphy. He became convinced that medical education needed more than proprietory schools. After failing to lure the University of Missouri School of Medicine to Kansas City, in spite of considerable effort, he became one of the prime movers in securing the amalgamation of the Kansas City Medical College and the Medico-Chirurgical College, both of Kansas City, Missouri, and the College of Physicians and Surgeons of Kansas City, Kansas, into the clinical years of the University of Kansas. In his autobiography, Dr. Schauffler took credit for establishing these clinical years at Kansas City. The University was then under the strong administration of Chancellor Strong. A gift of land and money by Dr. Simon Bell, of Kansas City, Kansas, made the first building on "goat hill" possible. The first school year for junior and senior classes opened in 1905, with the senior class coming from these three parent schools.

Both *The Jayhawker* of 1906 and the school catalogue for that year list Charles Lester Spaulding, M.D. as instructor in orthopedic surgery. His name then disappeared from all records. This gentleman, with the MD degree from Harvard and Bellevue Medical College, had trained at Boston Children's Hospital and at the Society for the Lying-In Hospital in New York and then became a naval surgeon in the Spanish American War. He had been professor of obstetrics and gynecology at the Kansas City Medical College the year before his orthopedic appointment at the University of Kansas. In the *Journal of the American Medical Association,* of June 1906, his obituary stated that a three-story fall down the elevator shaft in his office building was the cause of his untimely death.

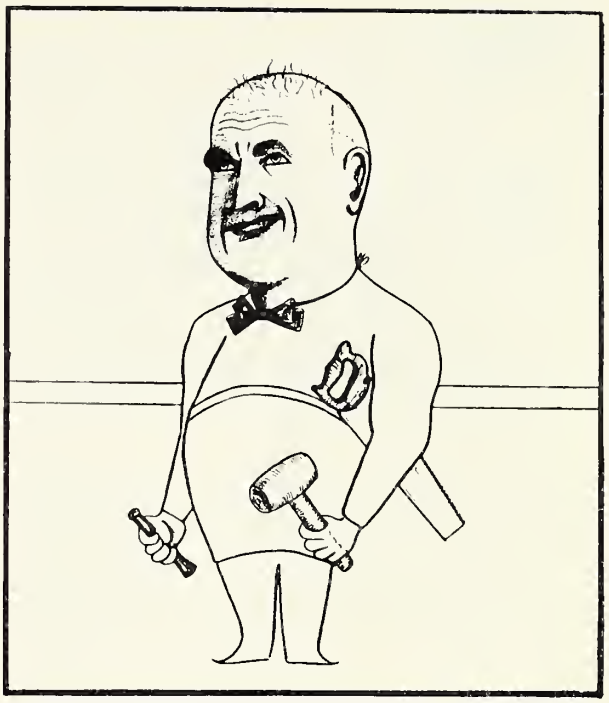


Figure 1: Caricature of C. B. Francisco, M.D., by H. M. Floersch, M.D.

With his passing, Dr. Schauffler took over the orthopedic surgery instructions, but he was listed in the department of surgery. His interest and skill in this field deepened and he was asked by Dr. Kathryn Richardson, of Children's Mercy Hospital, to take over the orthopedic clinic there also. He then decided to take up orthopedic surgery as a specialty and discontinued his general surgery practice.

In 1914, the author's father, C. B. Francisco, M.D., returned to Kansas City and the University of Kansas as the first formally trained orthopedic surgeon in Kansas City *(Figure 1)*. Dr. Schauffler then relinquished his work at the University of Kansas, but continued his great service at Children's Mercy Hospital for many years.

A very brief biography of C. B. Francisco may be in order here. When he was six years of age, in 1886, his family moved by covered wagon from Unionville, Missouri, to Gray County, west of Dodge City. He lived there in a sod house, grew up as a cowboy, had a boyhood romance, and nearly settled down. Incidentally, his old flame is still living, the widow of a wealthy cowman, in reasonably good health at 90 years of age. His family had thought better of the romance, and sent the youth to Nickerson Normal, where he played quarterback, then taught school for a year. Again, with his family, he moved to Lawrence, where he attended the University of Kansas and graduated in 1907, with the

first medical class to complete all four medical years at KU. He was the first intern at the University of Kansas, then went east and was a house officer at Ruptured and Crippled Hospital and in other centers. He toured English hospitals and visited with Sir Robert Jones. He then returned to the United States with the outbreak of World War I. He practiced in Kansas City, Missouri, and was instructor in orthopedics at the University of Kansas until this country entered the war, when he joined the small group of army orthopedic surgeons organized by Dr. Joel Goldthwaite who went overseas in May 1917, to the English and Scottish hospitals. He met an x-ray technician in the Army Hospital in Aberdeen, Scotland, and married her in 1919.

When American troops were sent overseas, these orthopedists were assigned to the American Expeditionary Force (AEF). Dr. Francisco saw active duty with the First Division in France. After the armistice, he became acting chief of orthopedics in AEF. On return to Kansas City and the University of Kansas in 1919, he immediately engaged in a solicitation of University of Kansas Alumni that produced funds to buy property at 39th and Rainbow, Kansas City, Kansas, for the present location of the University of Kansas Medical Center.

In the meantime, around 1913, a general surgeon, Dr. Edwin Ebright, came to Wichita and became the first orthopedically oriented practitioner there. Little is known of his early activities, except that he had done general practice in Oklahoma and Kansas, and had written on puerperal fever and other medical problems. In 1917, he wrote in the *Journal of the American Medical Association* on the importance of rest in the treatment of poliomyelitis.

Mr. C. Q. Chandler, a Wichita banker, had a daughter with severe polio. He made a trip to Philadelphia in 1915, to attempt to entice Dr. Frank Dickson to practice in Wichita. He did influence Dr. Dickson to come and establish a practice as far west as Kansas City, in 1915. During the early years Dr. Dickson made monthly trips to Wichita for clinics and surgery, usually spending two days. In 1922, Dr. Rex Dively took over these clinics and also established a clinic at McPherson. These clinics had been discontinued by the time the Kansas Crippled Children's Commission was established in 1931.

Interest in crippled children was evident as Dr. S. J. Crumbine, noted head of the Kansas State Board of Health and a Dean of the University of Kansas School of Medicine, led an intensive survey of the Board to locate children with orthopedic and other remedial defects. In 1920, the Capper Foundation for Crippled Children was founded to aid crippled children. Originally, financial support was provided for medical care of the crippled child. In 1947, a hospital school in Topeka was set up to carry on residential care.

A strong pattern of out-of-state crippled children's clinics in Kansas was present in the 1920s and 1930s. Drs. Francisco, Dickson, Dively, and later James Weaver, Charles Rombold, and others participated. The author accompanied his father on several of these trips. Hutchinson and Lawrence were visited monthly, with Dodge City, Leavenworth, Pratt, Independence, and many other towns on less frequent occasions. Usually Dad took a night train to Hutchinson or Dodge City, with breakfast at the Harvey House in the station. A full morning clinic, followed by a few private cases and occasional surgery comprised the schedule. These clinics were held in public buildings, such as fire stations, schools, churches, or other facilities. They were usually sponsored by a local organization that paid the visiting physician's expenses. The most durable clinic, in Lawrence, was sponsored by the Kiwanis Club. It was held monthly from 1922 until 1968, by the author's father, Dr. James Weaver and the author, until the last few years when Drs. Federico Adler, James Garner, Howard Eldfeldt, and John Wertzberger continued the clinic as part of their residency. Until about 1955, the clinic was held at the fire station, then at the Lawrence Memorial Hospital. In its later years it was primarily a flat foot affair, but in the early days it was a beehive of activity with plaster casts, a bracemaker, and many serious cases.

With Mr. Chandler as a leading force, the Kansas Society of Crippled Children was founded in 1925, as a private charitable organization. This organization sponsored many of the clinics, helped pay hospital expenses for crippled indigents, and gave occasional scholarships to building funds.

In 1931, the Kansas Crippled Children's Commission was established by law after an intensive state-wide survey. Using tax funds, this organization paid medical expenses of defined cripples for care in approved hospitals over the state. It also sponsored periodic diagnostic clinics in the areas of the state far from a resident orthopedist, an activity it still continues. Included in the original law was also a chronic malady category. The commission ran out of funds during the first two years because of many tonsillectomies, chronic appendectomies, and similar cases. This section of the law was removed in 1933. Since then it has always had a sound and consistent administration. Gaps in its coverage were often filled by the Society for Crippled Children.

During the 1920s and 1930s, the growth in numbers of orthopedic surgeons in Kansas was slow. Dr. Ed Ebright had returned to Wichita with the benefit of

considerable military orthopedics and periods of observation at rehabilitation centers in New York. He studied and wrote on the need of care for the crippled child, and on poliomyelitis in THE JOURNAL OF THE KANSAS MEDICAL SOCIETY. Dr. Rombold reported that he used a plaster bed in polio treatment. He had a notable career as President of Sedgwick County Medical Society and Kansas Medical Society, and was a delegate to the American Medical Association.

Dr. Rombold reports this story:

> Dr. Ebright had the reputation of having a difficult temper, and the story is told of his golf foursome coming up to a water hole, which his three partners easily cleared. His ball went into the pond. It was followed by two or three other balls, and finally, in exasperation, his clubs. All the players, and the caddy laughed heartily, which applied no balm to his wounded ego, so he threw his caddy, clubs and all, into the pond. He had to go in and rescue the caddy because the latter could not swim. He then made repeated trips into the pond to retrieve the clubs the caddy had been carrying. The story was told any number of times and was never denied, so I presume it was true.



Figure 2: Caricature of "Yogi" Williams, M.D., El Dorado; Ward McClanahan, M.D., Wichita; Lynn Litton, M.D., Columbia, Missouri; Drs. George Williamson, Charles Workman, and James B. Weaver, M.D., all of Kansas City, Missouri. All were orthopedists with the exception of Dr. Williams.

Dr. A. E. Bence began his practice in Wichita in the summer of 1926, after training with Dr. A. Steindler. He established the first Kansas Crippled Children Commission approved service in Wichita. He had been a mechanical engineer before his medical career and he made many of his own braces. Dr. Charles Rombold started his practice in Wichita late in 1926, after a two-year residency in New York Orthopedic Hospital with Dr. Hibbs. Working in the Wichita Clinic, he soon established a wide reputation for excellence in spinal fusion and other problems. He published several articles in the *Journal of Bone and Joint Surgery.* He established a preceptorship in the late 1930s, from which Drs. H. O. Angerson, H. O. Marsh, and John Lance graduated. This grew into the St. Francis residency, which has been the larger of the state's two training programs.

Dr. Frank E. Coffey started practice in Hays, in 1932, after working with Dr. Frank Dickson. His son, Roy, reported he had a two-room front office in his home and that his early practice was largely devoted to crippled children. He did travel to other cities, as well, and was known for his western attire. Another Iowa trained man, Dr. R. J. Dittrich, was licensed in Kansas in 1926, and practiced orthopedics in Fort Scott from 1932, or earlier, until 1942, when he moved away.

In Topeka, Manny Pusitz started practice in 1933. He reported that he had considerable difficulty with the general surgeons in that they did not refer cases which he considered needed specialized orthopedic techniques. He insisted on adequate fees from insurance companies and helped establish the Kansas Workmen's Compensation Law. He also did a great deal of crippled children's work and became very interested and knowledgeable with cerebral palsy cases. He related this was a field that gave him a real "in" to building up his practice.

Dr. William J. Feehan started practice in Kansas City, Kansas, in 1932, after postgraduate work in the Hospital for Bone and Joint Diseases, Tulsa, Oklahoma, and in Davenport, Iowa. Also at this time, Dr. James Elliott came across the state line, as did Drs. Dickson and Dively, to hold regular Kansas Crippled Children's Commission clinics in Kansas City, Kansas, and work in the Kansas City, Kansas hospitals.

During the 1920s and 1930s, Dr. C. B. Francisco's main interest at the University of Kansas Medical Center was teaching the medical students. He conducted a lecture series, weekly clinics, and a yearly senior class party. He employed the following count-down: "Is it something, or nothing, traumatic, inflammatory, developmental or neoplastic?" He endeavored to have the general men know enough to treat club feet, bow legs, and fractures. Naturally, acute and chronic polio, osteomyelitis and tuberculosis comprised a good portion of his work, and he used the Thomas wrench frequently. One of the general surgery residents in his service related he was fond of saying, "It takes skill and strength to do orthopedics." Dr. Francisco visited many other hospitals, mainly in Kansas City, Missouri. After 1926, he lived in Kansas. He was joined by another native Kansan, Dr. James Weaver, in 1937, at the University of Kansas Medical Center. The efforts of these two physicians contributed a great deal to build up the reputation of the

University of Kansas Medical Center in the outlying portions of the state.

During the years of World War II, orthopedists were scarce as Drs. Weaver, Pusitz, Trees, C. L. Francisco, and others went to war. Dr. C. L. passed away in February, 1944, a few days after this author's graduation from medical school. Before Dr. Weaver returned, Dr. James Elliott and others filled in on a temporary basis at the Medical Center.

The orthopedic residency at St. Francis Hospital in Wichita started in 1945, with the late Dr. J. Hess. The second resident was Dr. Stephen Fox, who also participated in the University of Kansas Medical Center residency started by Dr. Weaver. Drs. Charles Vilmer and Ivan Cain were the other two early residents there. Dr. Weaver devoted half time to the Medical Center, going to his Kansas City, Missouri, office in the afternoon. He had a great interest in children, built up the residency, and was a pioneer in the frozen bone bank graft. His vitality was sapped for many years by a chronic lymphoma.

In 1950, Dr. Weaver and others started the Kansas Orthopaedic Club and he was one of the first presidents. These gatherings were partly social and, at first, coincided with the Kansas Medical Society meetings. While the first presidents are not known, one of the achievements of the Club is well documented. In 1953, with Drs. H. O. Marsh and H. O. Anderson in the lead, orthopedic surgeons of Kansas, Missouri, Colorado, Nebraska, Oklahoma, and Arkansas were approached and later invited to the 1954 meeting in Kansas City, Kansas. That started the Mid Central States Orthopaedic Society. Wyoming was added later. This society has been a very viable group and has continued growth as orthopedic surgery boomed into maturity *(Figure 2)*.

From this study, it is evident that orthopedic surgery in Kansas started as an integral part of general surgery and was nurtured by special interest from certain of these surgeons. With the opportunity for intensive training, the field later achieved full time specialist standing. The problem of the crippled child stimulated the demand for our specialty, and was one of the primary means by which the early orthopedic surgeons built up their practice. Bone tuberculosis, hematogenous, osteomyelitis, and acute poliomyelitis were other prominent parts of the practice that have now faded as the present day orthopedic surgeon was evolving.

1976 KMS ROSTER

Dear Doctor:

Please alert your staff to the fact that the August issue of THE JOURNAL will be the annual directory of the Kansas Medical Society membership. Your copy will reach you around August 15, 1976.

Additional copies of the Roster may be purchased by KMS members at $5 per copy. Requests from non-members are subject to approval by the Executive Office, and will be $10 per copy.

The Late L. H. Munn, M. D.

Memoirs and Anecdotes

H. B. HOGEBOOM, M.D.,* ***Topeka***

H. B. "Hub" Hogeboom practiced in and observed the medical scene in Topeka from the 1890s into the 1960s, first as a general practitioner and then as an anesthetist (long before they called themselves anesthesiologists). From his place at the head of the operating table, he acquired—and contributed to—a considerable fund of medical lore in that community. This paper was discovered in the JOURNAL files and was apparently addressed to—perhaps requested by—the late W. M. Mills of Topeka, at one time president of the Kansas Medical Society and before that (so before this was written) editor of the JOURNAL (and the "Merrill" addressed herein). We suspect that Dr. Mills hoped to see recorded, before the ravages of time made it impossible, some of the thoughts of one memorable figure about another. Although its main interest may be for Topeka readers, it focuses on an individual who was well-known throughout the state and exemplifies those practitioners whose presence we seek to record as noted in the current editorial. Since Dr. Hogeboom died in 1964, it is thought that this was prepared not long before.—*Ed.*

MY FRIENDSHIP and professional association with Dr. Munn began in the year of 1896, as a staff member of the Jane C. Stormont Hospital and Training School for Nurses. The hospital had been recently organized into a general hospital; it was formerly operated as a hospital for women only, by Dr. M. B. Ward (deceased). The change caused Dr. Ward to resign and he opened up a hospital of his own across the street. Naturally, this caused ill feeling, especially between Dr. Munn and Dr. Ward.

During a Kansas State Medical (Society) meeting held in Hamilton Hall, about the time that this change was made or being in process, they met at the top of the stairs. Dr. Ward was just coming up and had landed at the head of the stairs while Dr. Munn, accompanied by Dr. (C. A.) McGuire, was leaving.

I do not remember the words that passed between them. Dr. Ward always carried a gold headed cane and usually wore a silk plug hat (was a nice dresser). He attempted to strike Dr. Munn over the head with his cane but Dr. Munn neatly avoided the blow, countering with his right (and) knocking Dr. Ward down. Dr. McGuire was very provoked and said to Dr. Munn, "You damn fool, let's get out of here." I have had a high opinion of Dr. Munn's boxing ability ever since.*

The operating room of the hospital was located on the second floor and was #13, and the adjoining room was #23. Dr. Munn had them changed to 31 and 32. He thought some patients might be superstitious. The first telephone we had in my father's home† was #13, and the best phone in the city in those days—never struck by lightning and hardly out of order.

When (Ed "Strangler") Lewis was champion wrestler, we decided to go down to Kansas City to see him defend his title. Leaving on the afternoon of the fight via Rock Island Railway, we arrived in Kansas City in plenty of time. Dr. Munn wanted to stop at the Savoy Hotel, which was one of the main hotels at the time. Upon arriving at the hotel and entering the lobby, Dr. Munn pointed to a corner room and said, "Many years ago, I occupied that room on my honeymoon." A man was standing nearby. He was under the effects of alcohol and, hearing us address Dr. Munn as "Doctor," said to Munn, "What—hic—was her name, Doctor?"

We attended the match and, upon arriving at the depot to return home, could not locate Munn and thought we would go across the street for a glass of beer unbeknownst to Munn. We found him at the bar. He had given us the slip but said he had looked for us. We told him we looked for him also.

My first auto, a Great Smith,‡ was purchased from him (his first). It was a chain-driven, two cylinder runabout. The late Dr. Freeman had just purchased a new Model T Ford runabout. Dr. Munn, being certain that his old car could out-run the new Ford, insisted that a race be arranged. We started at 6th and West Streets

* 1873-1964.

* The feud was apparently resolved, as the minutes of the meeting of the Society for 1901 note that Dr. Munn informed the Society of Dr. Ward's confinement to his home by illness and presented a resolution of sympathy and good wishes which was passed.—*Ed.*

† Dr. Hogeboom's father, Dr. G. W. Hogeboom, was president of the Kansas Medical Society in 1893.—*Ed.*

‡ The Great Smith, Topeka's brief claim to automotive fame, was manufactured from about 1900 to 1910 at the approximate site of the present Holiday Inn Downtown by Dr. Clement Smith and his brother, who achieved earlier and perhaps more lasting fame as the makers of the "Honest John" truss.—*Ed.*

(Topeka), and Dr. McGuire was to start us. It was a fair start with Dr. Freeman winning fair and square. Dr. Munn was quite put out over the result and said to me he was afraid to open his old car up. Thirty miles per hour was the best it would do, and that chiefly downhill.

Dr. (F. H.) Scholle and I (as well as Dr. Munn) had offices at 627 Kansas Avenue. We all went to the ball game at least once a week. On the opening day, Dr. Munn invited us to go as his guests, Scholle and I returning the favor later. The grounds were located on 15th at the foot of Highland Park (the old Western League). On account, perhaps, of the lack of funds, we decided that when we did go we would match coins. Of course, Scholle and I would always throw either tails or heads at the same time, thereby sticking Dr. Munn. He was a good sport, stating that his luck would surely change some day. Well, my conscience, I guess, began to bother me and being aware it was only a question of time before Dr. Scholle would let the cat out of the bag, I decided to beat him to it. Consequently, I told Dr. Munn of the plot. The next time we matched, Dr. Munn followed my instructions and we stuck Dr. Scholle. The expression on his face was pathetic. I told him I thought it would be wise for me to beat him to it. He did not deny it and we remained the best of friends.

Many years ago before I was married, I attended the Sunday night services at the First Methodist with my fiancee. We were seated in the first row of the balcony when Dr. Munn came to the head of the stairs and said in a loud voice, "Hub, that's no place for you. Emergency operation at the hospital." I was somewhat peeved on arriving at the hospital and no doubt showed it, more on account of the manner in which he called me. He told me I should be glad, that the advertising was worth more than five dollars to me. I told him no one knew who "Hub" was. However, I knew of a well known doctor who had the reputation of giving $5.00 for the same service often.

These many years, it has been a pleasure to me to accompany Dr. Munn on a number of occasions throughout the state. Once I was with him out west. He had received an urgent call to come and be prepared to operate on a case of appendicitis. We arrived by train, and were met by the hired man and driven out to a farm. The driver said the doctor was waiting for us and was all set up for the operation. Arriving at the house, we were met by the doctor and introduced to the father of the patient. The dining room had been arranged into an operating room: curtains down, the rug removed, the floor scrubbed, woodwork cleansed, sheets, towels, etc. sterilized in the oven four-boiler.

I was preparing to get my ether and cone out of my grip when Dr. Munn said to me, "Go in and examine the patient," the mother being the only one in the room. I listened to the heart first which was very fast. The breathing was labored. I percussed and listened to the lungs. There was very little pain or tenderness with no rigidity of the muscle in the appendix region. I came out of the room and Dr. Munn, the family doctor, and I went into a private room. Dr. Munn asked me first what I thought and I said I would hate to give her an anesthetic, that I thought it to be a case of pneumonia. Munn said, "You are right, Hub." To make a long story short, the doctor was much put out and wanted Dr. Munn to make an incision through the skin on account of the humiliation that he would receive and damage to his practice in the future. Dr. Munn became

The Vin Burgundi employed in Cortexalin is a selected vintage (imported) with which is incorporated the vegetable bitter Tonics—Gentian, Columbo, Cinchona Rubra, Damiana and Nux Vomica.

Advertisement for Cortexalin, 1901

very angry and explained to him that it would certainly be much worse on him to subject the patient to an anesthetic with fatal results, that he would not operate under any circumstances, that it was not rare to make a mistake in diagnosing one of these cases because of the referred pain in the region of the appendix. He explained to the satisfaction of the parents that it was difficult to distinguish between appendicitis and a case of pneumonia because of the referred pain. The parents were well pleased and gratified, especially because an operation would not be necessary. Dr. Munn told them he did not intend to charge them for his time and when the attending physician offered to pay me, I politely refused.

Another case that comes to my mind was sent in to Dr. Munn by a doctor for hysterectomy on a diagnosis of a fibroid. The attending man was notified of the date and time set for the operation. The doctor was on hand and I started the anesthetic. The patient was not completely asleep when the doctor came in the operating room and, raising the mask, asked her if she had brought the money. She told him she had and that it was in her purse in her room. I was very much provoked at the doctor, more so after I learned that he had gone to her room, taken half the money, and left the hospital. Dr. Munn was very much annoyed and told me he would never operate again on any patient referred by him, that he did not need money that bad.

Merrill:

As I look back upon the period of fee-splitting, I can not but know that the American College has performed a very valuable service in endeavoring to do away with such a practice.

Dr. Munn was always, to me, a friend in need and a friend indeed, and I feel that his many, many friends feel the same.

With best wishes,
I remain as ever,
H. B. H.



We have received replies to the circular we mailed a few weeks ago from about one-half of the members. We are anxious to get THE JOURNAL entered as second-class matter. And in order to do this we must comply with the postal laws. Inasmuch as THE JOURNAL is published by the society, it is necessary that we have orders from the members for THE JOURNAL. We can get it admitted as second-class matter provided we leave out the advertising matter, but we do not wish to do this. We hope to reduce the expense of publication considerably by the income from advertising. As we are now situated we have to pay one cent for each copy mailed, whereas as second-class matter it would cost us one cent a pound. It seems that every member should be sufficiently interested in the society to give a little attention to so important a matter. Kindly fill out the blank sent you and mail to the Secretary at once.

Editorial Note, September 1901

Department of Anatomy

University of Kansas and University of Kansas Medical Center

PATRICK R. STERRETT, Ph.D.*, *Lubbock, Texas*

The University of Kansas, wishing to offer a more substantial medical education than that available in many of the proprietary schools, established a one-year preparatory medical course in 1879. This program began 14 years after the founding of the University of Kansas on Mt. Oread. An enrollment larger than five students was unusual. In this preparatory medical course, students were required to take chemistry, physiology, comparative anatomy (including dissections), botany, toxicology, and materia medica. Once students finished this one-year pre-medical curriculum, they went elsewhere for their last two years, such as to Rush Medical College, Chicago; Kansas Medical College, Topeka; University Medical College and Kansas City Medical College, both at Kansas City, Missouri. Although the University did not have a department of anatomy until 1898, when a two-year school of medicine was founded, Dr. Lewis Dyche, professor of zoology and curator of mammals and birds, as well as Dr. Samuel Williston, professor of historical geology, vertebrate anatomy and physiology, did offer a few courses in anatomy. Dr. Dyche taught human osteology and vertebrate anatomy to graduate students. Anatomy at this period was under the department of zoology. However, in 1899, when the two-year school of medicine was established, Dr. Williston was the first to be appointed to the chair of anatomy. Thus, he was the first of several distinguished men to occupy the chair of the anatomy department at the University of Kansas (*Figure 1*). He also served as Dean of the new two-year medical school. His appointments were made by Dr. Francis H. Snow, then chancellor of the University.

Dr. Williston came to the University of Kansas around 1892. Prior to his appointment here, he served with the New Haven Board of Health. He was responsible for setting up rules and regulations for the quarantine procedures for various contagious diseases. Dr. Williston received his MD degree from Yale Medical College in 1880. He also held a PhD degree in paleontology, but the date of this accomplishment is unknown. When he came to Lawrence, he was assigned to the department of historical geology, anatomy, and physiology. He taught historical geology, systematic paleontology, physiology, special work in vertebrate anatomy (recent or fossil), field work in paleontology, as well as histology. Before becoming chairman of anatomy and dean of the medical school, he did active research in the field of systematic behavior of bees, according to Dr. Paul Roofe. Once appointed chairman, it appears Dr. Williston was responsible for the teaching of human anatomy. Histology was then taught by Dr. Dyche, and physiology by Professor Hyde. Only comparative anatomy was offered prior to Dr. Williston's appointment at KU. However, once he became chairman, courses in human anatomy were offered, and there is an indication that both demonstration and dissections were used, according to the KU catalogues of 1899-1903. The record book of cadavers of the department indicates the first body was received from Osawatomie State Hospital on November 24, 1899.

Dr. James Naismith was on the faculty of the department with Dr. Williston for several years. Dr. Naismith later became famous for inventing the not uncommon sport, basketball.

Dr. Williston, with all the responsibilities mentioned above as well as teaching several paleontology courses for the graduate school (which was established in 1896), became a success in everything he pursued. His battle to gain recognition for the two-year medical school resulted in his students gaining admittance to ranking institutions; most students went to Rush Medical College. His contributions to the development of the graduate school were most impressive in helping to design a PhD program for paleontology.

When Dr. Williston resigned in 1903, to take a position with the Health Department in Chicago, he vacated two important positions: anatomy chair and dean. Dr. Clarence McClung became acting dean of the Medical School in Lawrence until KU offered a four-year course and a degree in 1905. Dr. McClung is famous for his work in genetics and it is alleged he coined the term "chromosome."

The first dean of the new University of Kansas School of Medicine in 1905 was Dr. George Hoxie *(Figure 2)*.

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Figure 1. Dr. Samuel Williston, Chairman of the Department of Anatomy, 1892-1902.

However, before this appointment, he was appointed to the chair of human anatomy at KU, for the sum of $1,500 a year. The appointment was made by Frank Strong, successor to Dr. Snow as chancellor in 1902. Although Dr. Hoxie spent only the mornings teaching anatomy, devoting the remainder of his time to the private practice in Lawrence, he managed to win the trust of his students. The system of anatomy appeared to change somewhat. Regional courses in anatomy began to appear in the catalogue. Courses such as systematic study of the leg, head, trunk, and cross-sections were offered. Also, he taught the first course in neurology to be offered since the first medical preparatory school began. This consisted of a study of the nervous system according to *Cunningham's Textbook of Anatomy.* Microscopic preparations were studied of peripheral nerve, spinal cord, medulla, cerebellar cortex, pons varolii, cerebral cortex, retina, and Schneiderian membrane.

Dr. Hoxie was graduated in 1893, from Union College, Schenectady, New York, where he received his Master degree (zoology) in 1896, and from the University of Zurich, Switzerland, where he received his MD degree in 1901. He also studied at the University of Heidelberg and the University of Munich.

At Heidelberg, where he learned surgical techniques, most of the instruction was given in the dissection room, and this fitted in with his preconceived ideas of the proper way to teach medical sciences.

During Dr. Hoxie's years as associate professor of anatomy and as a private physician, he was also elected Editor of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY. He took this unsalaried position to get acquainted with the doctors around the state. This may have been influential in his election as dean of the first four-year medical school in Kansas.

When Dr. Hoxie was elected to the deanship in 1905, it was Chancellor Strong of KU who made the appointment. In Dr. Hoxie's biography (unpublished), he gave the following account of his appointment:

> I thanked Dr. Strong for considering me fit for the position, but protested that I was too young for such a position, that it would be better—if he wanted me there—to have me act as secretary of the faculty, or in some similar subordinate capacity. However, he felt I could do it if I would call on other members of the faculty of the Kansas City Medical College for advice, when I got into a quandary.
>
> I thought over the matter for a few days and then in spite of many misgivings finally agreed to take the plunge. I sold my horse and buggy, packed up my other belongings, went to Kansas City, registered at the old Coates House, and began to look about for a dwelling place. This was on August 22, 1905.

At the time the new school of medicine was being organized, there were three medical colleges in Kansas City, Missouri: the Kansas City Medical College, the University Medical College, and the Medico-Chirurgical College. On the Kansas side of the state line was the College of Physicians and Surgeons. Three of these merged to become the new medical center, which was not yet called the University of Kansas Medical Center. The University Medical College did not join in the merger. Only one of those medical colleges merging owned its building, and it was one of several places used. The other two colleges owned no land, but could use the facilities at St. Joseph's, Bethany, and the city hospitals. Thus classes, clinics, and patient care assignments were spread all over the city. The College of Physicians and Surgeons had hired the Simpson Building, at Seventh and Central, for teaching, administration, and clinical work until the state could erect proper buildings for that purpose. Bethany Hospital appeared to be the best facility to send patients and it was agreed that this could be done. The superintendent of Bethany Hospital was the one responsible for making this agreement possible, but when the first patient was admitted, the head nurse refused to admit him. The superintendent



Figure 2. Dr. George Hoxie, Dean, 1902-1905.

went to Dr. Hoxie in great distress, and told him that in spite of his entreaties on bended knees, the head nurse remained adamant. (The superintendent later married this head nurse.)

This left the new medical school without adequate facilities on Kansas side. Furthermore, the Legislature of Kansas did not like the idea of supporting a school in Missouri. Therefore, Dr. Hoxie was in some bind but was saved by Dr. Simeon B. Bell. Dr. Bell assured the location of the clinical years at Rosedale by a gift to the university of seven and one-half acres of land in Rosedale plus $45,000 in cash. With the cash, the original hospital building named, in his wife's honor, the Eleanor Taylor Bell Memorial Hospital, and the laboratory building were constructed at a cost of $25,000 and $20,000 respectively.[1] In 1911, the state appropriated $50,000 to build an additional hospital building.

In 1921, relations with the Rockefeller Foundation were not the best. In 1910, Mr. Abraham Flexner, of the Rockefeller Foundation, had not approved the request for considerable appropriations for the building of a clinical school due to the fact that the Kansas Medical School was split into two different locations. (Had it not been for Dr. Bell, this Medical Center might not be here today.) In 1921, however, negotiations with Mr. Flexner were again attempted to begin building at the present site on Rainbow Blvd. Again their negotiations failed, but in spite of this the administrative building, the first building to be erected on the present site, was completed in 1924, thanks to private donations. This eventually gave expression to the large medical center we have now, not only through the use of federal and state funds but many private funds as well. (As long as Kansas remained a split school, the Rockefeller Foundation, the pacemaker of medical education, would demonstrate no signs of handsome appropriations to the Medical School.)

To return to Dr. Hoxie's appointment as the first dean of the four-year medical school, it goes without saying that we owe him a great deal for what he has done in contributing to the establishment of the KU Medical Center as it is today. Dr. Hoxie resigned in 1911, and entered general practice continuing in that capacity until his retirement in 1940. Dr. S. J. Crumbine was then appointed dean of the School of Medicine, and Dr. Mervin Sudler was appointed associate dean.

Dr. Sudler was in Lawrence from 1905-1911, and had taken Dr. Hoxie's position as chairman of the anatomy department. He was appointed by Chancellor Strong. When Dr. Sudler arrived in Lawrence from the East, where he had just finished a residency in surgery in New York, he was quite awe-struck. Many of his friends had warned him that Kansas was in the far West and still inhabited by bands of roving and marauding Indians. Sudler said that he thought they were right when he alighted at the Union Station and found it jam-packed with Indians—feathers, paint, buckskin trousers, moccasins, squaws, etc. He soon learned, however, that Buffalo Bill's Wild West Show was passing through town with an hour's stop between trains.

Once settled, Dr. Sudler carried on the earlier tradition of Dr. Hoxie's principles of teaching. The anatomy department at Lawrence continued to be of the highest quality set by previous chairmen. According to the curriculum catalogues, it was during Sudler's reign as chairman that histology and embryology were placed in this department rather than in zoology, where they had been previously. Descriptive anatomy was becoming broader as far as course selection was concerned, and the anatomy requirements for medical students were apparently becoming much heavier. The laboratories for gross anatomy and dissection occupied rooms in the basement of the Museum of Natural History. Seven hours were required the first semester for descriptive anatomy alone. The hours were from 8 to 12:15 and included only the study of bone and the vertebral column and dissection of head and neck. Eight hours were required the second semester which again required

daily classes from 8 to 12:15. During this term, the abdomen, thorax, and leg were carefully dissected and studied. Beside these courses, a four-hour course in the study of the embryology, gross and microscopic anatomy of the brain, cord and sense organs was required. Topographical and surgical anatomy, as well as general histology and embryology, were required courses.

Dr. Sudler was appointed associate dean of the medical school in 1911, and became dean in 1921 when Dr. Crumbine resigned. This, of course, meant Dr. Sudler had to move to Kansas City, again leaving the chair of anatomy open. This position was filled by Dr. E. J. Curran.

As associate dean, Dr. Sudler was to all intents dean. He formulated the policies, made the appointments, settled intramural disputes, and received the shower of brickbats that seem one of the occupational hazards of all medical deans. Dr. Crumbine, although dean, was professor of preventive medicine and spent most of his time in Topeka as Secretary of the Board of Health, coming down once a week to discuss affairs of the medical school. When he resigned in 1921, Dr. Sudler was appointed dean by Chancellor E. H. Lindley, who had taken over his position a couple of years earlier, when Chancellor Strong resigned.

Dr. Sudler, although making great strides for the Medical School, experienced one of the worse political stabbings Kansas has ever had. Governor Davis, one whom Kansas will never forget, was apparently "making waves" and as a result, Dr. Sudler left in 1924 to go into private practice. Chancellor Lindley also left. The financial status became weak also since Mr. Flexner and his Rockefeller Foundation clearly stated, "Politics shall not enter into educational management." It is needless to say what transpired.

When Dr. Sudler was appointed associate dean, Dr. E. J. Curran took over the chair of anatomy in Lawrence for one year—1911-1912. He maintained the same course curriculum at Lawrence as Dr. Sudler had the previous years. Dr. Curran later became a world renowned ophthalmologist, and was the founder of the ophthalmology department at KU. Born in Australia, Dr. Curran graduated from Harvard Medical School. He also studied medicine at Oxford, and was house surgeon at Oxford Eye Hospital. He then became assistant instructor of anatomy at Harvard, and later instructor of anatomy and neurology at Northwestern University. After his year as professor of anatomy at Lawrence, he came to Kansas City where he started the first ophthalmology department at the medical school in 1914. For 32 years, he was professor of ophthalmology and head of that department at KU Medical Center.

During his career, Dr. Curran was elevated to Catholic Knighthood (Knight of the Equestrian Order of the Holy Sepulchre). This elevation of Dr. Curran into the extremely limited membership of the order was in recognition of his charity and his outstanding service to the church, the high honor being conferred at the direction of Pope Pius XII, and the diploma citing the qualification being signed by Cardinal Nicholas Canali.

Dr. John Sundwall became the fifth chairman of the anatomy department when Dr. Curran left the chair in 1912. Dr. Sundwall held the chair from 1912-1918. Before coming to Lawrence, Dr. Sundwall received his PhD degree in anatomy, in 1906, from the University of Chicago. He then was assistant professor of anatomy at the University of Chicago, and later professor at the University of Utah. He received his MD degree in 1912, at Johns Hopkins Medical School. Throughout these years, he became involved in the Public Health Service and was a well-known hygienic expert and, in 1912, prior to his appointment to KU, was Assistant Surgeon of the USPHS. While at KU, he was professor of anatomy, as well as director of the health service, which he organized. According to Dr. Major, Dr. Sundwall rapidly built up a first rate anatomy department by any school's standards. As before, the laboratories were in the basement of the Museum of Natural History. However, histology and embryology were now taught in Snow Hall. While he was chairman, equipment was increased and more material was provided, including dissections, osteological preparations, models, and neurological preparations. One of Dr. Sundwall's favorite remarks in the description of anatomy courses in the KU catalogue was, "A special effort has been made to embalm the dissecting material so as to give absolutely the best results." This obviously implies that students must have had some distasteful experiences with cadavers before this time. As for fees, each student was charged according to the amount of material used (sounds rough for the slow learners!).

The only additional courses that Dr. Sundwall offered were seminars on subjects of current interest in anatomy. The prerequisites for these were Anatomy 1 to 7 (all anatomy courses), and a reading knowledge of French and German. When Dr. Sundwall hired Dr. George Coghill in 1913 as associate professor, neuroanatomy was taught for the first time, but research was not to be seen until 1918, when Coghill took over as chairman. Furthermore, protozoology was also being offered in anatomy, but taught by instructors from the department of zoology.

In Dr. Major's book, *An Account of the University of Kansas School of Medicine,* Dr. Major was the best

of friends with Dr. Sundwall since they had been fellow students at Johns Hopkins. Dr. Major gives an account of Dr. Sundwall's love of smoking.

> Sundwall liked to smoke, but his assistant and right-hand man in the department, Dr. Smith, was a very vocal enemy of the filthy weed. The students, aware of his hostility, would often smoke until just before coming into the dissecting room and then await his reaction, which was invariably prompt. "You smoke!", Dr. Smith would say sadly, looking at the sinner. "No, doctor, you are mistaken, it's the cadaver you smell, not me." But Sundwall was nothing if not diplomatic. After we had talked for a while, Sundwall would say, "Let's have a smoke." We would put on our hats, leave the Anatomy Department (in the basement of Dyche Hall), climb over the hill, and when safely on the other side, sit down in the grass and light our cigars. Kansas then had an anti-cigarette law, and professors were not supposed to break the law—in public.

When Dr. Sundwall left KU in 1918, he became director of the University Health Service at the University of Minnesota. In 1921, he left Minnesota and went to Ann Arbor, Michigan, where he became professor and director of the division of hygiene and public health. On retirement, he became professor emeritus of hygiene and public health at the University of Michigan.

Dr. George Ellett Coghill became the sixth chairman in 1918, when he filled the chair of anatomy after Dr. Sundwall left. Dr. Coghill became a milestone for the University of Kansas in many ways. However, his most important contribution in education was the encouragement and leadership he gave to student research in anatomy. His own research was a contribution not only to our school and to our country but to the world of science.

The basic problems of both science and philosophy from the earliest times of which we have record stem from a very practical question. What are the relationships between our bodily organization as a mechanism in action and those mental capacities which seem to control the actions of the body and to give man increasing control over his surroundings? That this control is actual and efficient is common experience, but no one has succeeded in explaining how this control is effected or the nature of the relationship between the world, as we know it in objective experience, and the conscious life of the knower. What makes the human machine tick and keep time in a world so full of complications?

As a young man, Dr. Coghill wanted to find out whether it might be possible to discover some hitherto untried scientific approach in this quest. The difficulties were obvious. They were met by insight which showed him how to direct his first inquiry to the root of the problem—the correlation of the simplest observable behavior practicable as demonstrated in Amblystoma, and the 40 years spent on the program were fruitful. By studying the structural changes of the nervous system during the swimming and feeding movements of Amblystoma, Dr. Coghill's inquiry was the first, and so far the most complete, account of the relationships between the progressive differentiation of bodily structure and the operation of that structure as manifest in overt behavior. The results were important for understanding the organization and operation of the animal body; and Dr. Coghill lived to see world-wide interests in his program, numerous investigations instigated or influenced by his findings, and a new school of thought developed around the Coghillian conceptions of the patterns of vital processes.

Before coming to KU in 1913, Dr. Coghill spent his earlier years preparing for the ministry. From 1894-1896, he studied ministry at Brown University. However, during his seminary work after graduation he became discouraged and dissatisfied and left at the age of 25. Not knowing what to do, he went back to Santa Fe, where he met Professor Clarence Luther Herrick, a well-known naturalist, philosopher, and behavioral scientist. Professor Herrick assured Dr. Coghill that if he wanted to study the nervous system, he would allow him access to his laboratory and assist him as much as he wanted. It was this meeting and offer that made it possible for Dr. Coghill to devote his life to the study of anatomy and physiology of the nervous system from the ontogenetic approach.

After graduating with the MS degree from New Mexico University and the PhD degree from Brown University in 1896 (PhD dissertation was on the cranial nerves of *Amblystoma tigrinum* published in the *Journal of Comparative Neurology* in September 1902), he taught at Pacific University and Willamette University, both in Oregon, and then at Denison University, in Ohio.

During Dr. Coghill's stay at Lawrence, it was apparent that the quality of teaching anatomy was reaching a peak of superiority. Dissections of the entire body were emphasized, readings and discussions on the history of anatomy were strongly suggested, and advanced courses in anatomy were offered. Comparative neurology was taught for the first time. Research in anatomy had been initiated not only by Dr. Coghill but also by Dr. Henry C. Tracy, who was to become chairman of anatomy when Dr. Coghill left for the Wistar Institute in 1926 for twice the salary he had been receiving.

Dr. Coghill was looking for a "bright young man" to come to Kansas to help promote research skills since he knew it was not a one-man task. He consulted on this matter with Professor C. J. Herrick, who recommended Professor Tracy. This proved a mutually hap-

py arrangement. Dr. Tracy's interest in the development of the nervous system in relation to behavior fitted into the overall program of Professor Coghill's Amblystoma studies, as well as Professor Herrick's basic treatment of the salamander brain. Thus, Dr. Tracy began his new duties as professor of anatomy in 1919.

The significance of graduate education was a big concern to Dr. Coghill, and because of his concern and actions we can thank him for the graduate program in anatomy today. He frankly admitted, in a letter to Dr. Herrick in 1919, that "I see no hope here of gaining any following of research students in my medical classes. Unless I institute a general neurology course for collegiate students, I can see no chance here in the line of graduate instruction."

Dr. Coghill was unduly pessimistic in 1917 about the research possibilities within his own department, but with the hiring of Dr. Tracy and starting of courses of neurology and comparative psychology for graduate students, the possibilities became fact. Of the graduate students known to Dr. C. J. Herrick at the time he wrote Dr. Coghill's biography, ten students earned MA degrees and five received PhD degrees, some under Dr. Coghill, others under both Drs. Coghill and Tracy. The first graduate student to receive a PhD degree in anatomy at KU was H. S. Faris in 1923, who worked under Dr. Coghill. I. D. Hogg and E. A. Swenson received PhD degrees from KU in 1926 and 1927 respectively. Their advisors were Dr. Coghill and Dr. Tracy.

Dr. Coghill was also secretary of the faculty at the Medical School in Rosedale. This was a position which was, after the dean, the second best political target in the medical school. Being a political target was not Dr. Coghill's idea of being a scientist and thus he left for Wistar Institute in 1925. The move to Wistar at the age of 53 marked the close of his formal teaching career. The rest of his life was devoted to research. At Wistar, he broke new ground and cultivated it so productively that the outlook in both biology and psychology has been profoundly affected. He continued this cultivation of science at Gainesville, Florida, after leaving Wistar. Several persons went to visit him at the "Singing Pines" just west of the campus in Gainesville; some to do research with him on the oppossum, as Dr. David Pankratz; to study his beautiful slide collection on Amblystoma larvae, as did Dr. Karl Youngstrom; or just to visit and be inspired.

Although he met many trying moments and even disaster, he always stood strong with his belief in the "relation of cause and effect, in a purely scientific system, that the living organism is such a system, and that I can not fully perceive any phase of this relation or part of this system as a whole. Upon this hypothesis my understanding of an event scientifically or experimentally requires knowledge of the future as well as the part of the system in which that event occurs. If this be philosophy, I would call it philosophy, not of being but of becoming; not of life, but of living, which is itself my supreme experiment." His philosophy was best presented probably in his lecture to the American Association of Anatomists (April 13, 1933, in Cincinnati. *Science* 78: 131-138).

In 1926, Dr. Henry C. Tracy was appointed chairman of anatomy. Professor Tracy was an exceedingly effective teacher, especially in neurology, where at the end of each session the blackboard would be covered with uncomplicated, yet extremely helpful, illustrations. He made clay models of the brain and other organs for demonstration purposes, as well as training of graduate students who made them. He considers the proprioceptive pattern an especially important avenue for learning. Dr. Tracy was a strong believer in the use of audiovisual aides in classroom teaching. This technique of teaching was no doubt influential on other departments. Furthermore, in 1949, it became evident that the medical school in Kansas would be the first in the nation to use television regularly in its medical teaching and one cannot help but consider here the possibility that Dr. Tracy, as well as his successor, Dr. Paul Roofe, may have had an influential part in this innovation.

Professor Tracy's professional training began at Dartmouth College, where he received his AB degree in 1902. He became interested in the life habitats of marine fishes, receiving his PhD at Brown University in 1910. His thesis was developed on the swim bladder of fishes. His first academic position was an instructorship in anatomy, histology, and embryology at Northwestern University, 1910-1912. In 1912, he joined the faculty at Marquette University as professor of anatomy, and soon became chairman of the department, where he remained until 1919, when he accepted his position at Lawrence with Dr. Coghill. (Dr. Tracy was appointed by Chancellor Mallott.)

He remained at Kansas for 30 years, serving as chairman for 20 years. During this stay, he opened new avenues of research and encouraged his graduate students to become heavily involved in the skills it had to offer. Dr. Tracy was responsible in advising and guiding seven graduate students in their research leading to PhD degrees. Beside this, he directed and taught the anatomy courses offered under the department.

One of Dr. Tracy's last graduate students was Dr. Karl A. Youngstrom, now professor of anatomy and radiology at the University of Kansas School of Medi-

cine. Dr. Youngstrom was a disciple of both Drs. Coghill and Tracy and was doing research on the Amblystoma program started earlier by Dr. Coghill and continued by Dr. Tracy. Under the direction of Dr. Tracy, Dr. Youngstrom prepared a dissertation on the development of behavior of the Anura, which included instructive comparisons with Dr. Coghill's account of Amblystoma. In later years (1939), Drs. Youngstrom and Coghill worked together at Gainesville, where Dr. Coghill had his own research farm (retirement place). A report of Dr. Youngstrom's work with him at Gainesville was published by Dr. Youngstrom in 1940, in the *Journal of Comparative Neurology*, 73:139-151, 1940.

When Dr. Tracy retired, he taught anatomy and neurology at the University of Mississippi (1950). His interest in behavior problems, especially that which related to the nervous system, never waned. He worked until the very end on toadfish (Opsanus Tau) nervous system. He spent many summers at Woods Hole Marine Biological Laboratories. While he was there, one of his graduate students was Dr. Charles Wheeler of Kansas City, Missouri (now mayor of Kansas City), who was an expert in obtaining toadfish embryos from sunken old tin cans, rubber boots, and secluded rocky crannies.

In 1945, when Dr. Tracy retired as chairman, Dr. Paul G. Roofe became the new chairman of anatomy. They spent several summers together at Woods Hole, since Dr. Roofe was also a supporter of Dr. Coghill's doctrine. Their close friendship and interests no doubt had some influence on Dr. Roofe's decision to accept the appointment at Kansas. (Chancellor Mallott was still chancellor until 1949, when Dr. Franklin Murphy replaced Mallott.)

Dr. Roofe remained chairman until his retirement from that position in 1962. Dr. Roofe's history as a scientist is very similar to that of Dr. Coghill. After receiving his AB degree in agriculture and biology at Kansas State University (then Kansas State Agriculture College), he worked in Greece for one year in the area of agriculture. He returned to Lawrence to teach chemistry at the Haskell Institute. Later, he decided to enter the ministry in Chicago. At this time, Dr. C. J. Herrick was a professor at the University of Chicago. Dr. Roofe became interested in his work while in Greece. He had read his accounts on behavior and the nervous system, and insidiously became more interested in such a pursuit. Thus, after graduating from theology school (Unitarian), Roofe enrolled at the University of Chicago under Dr. Herrick. While he was in graduate school, Dr. Roofe's philosophy about behavior in relation to the nervous system began to materialize. His feelings and interests were similar to Dr. Coghill's ideas discussed above. He felt that the individuation of reflexes was a slow thing (evolution). The development of the embryo is under the dominance of total behavior. One learns to inhibit total action patterns to bring out what one wants to say. Thus, mentality is as important as individual reflexes.

Although his dissertation was on the study of capillary flow in living brains of salamanders, this undoubtedly had many implications to Dr. Coghill's work. Much of his later work certainly supports the principles that Dr. Coghill had cultivated.

As well as being a researcher and teacher at KU Dr. Roofe was also a leading administrator. He is well known for his study of the curriculum of a number of medical schools across the United States in 1952. He found that one major weakness was the universal tendency of every department to regard each student as a potential specialist in the field of knowledge. Professors have tried to make every medical student anatomist, a biochemist, a surgeon, or a physiologist. Dr. Roofe advocated greater integration of the basic sciences. He felt the old system was becoming too unwieldy and expensive. Instead of anatomy, physiology and biochemistry, why not study human biology in all its wonderful interrelatedness? This was a revolutionary change which started with all the graduate students of anatomy and had promising new horizons for the Kansas medical student of the future.

Like Dr. Coghill, Dr. Roofe was looking for a "bright young man" to come to Kansas to assist him with the research and teaching program, especially in neuroanatomy. In 1953, Dr. Howard A. Matzke was appointed to the task as associate professor of anatomy. Dr. Matzke was recommended to the position by the late Dr. Rasmussen, a famed neuroanatomist from the University of Minnesota, where Dr. Matzke received his PhD degree in 1949. Dr. Matzke, coming from the State University of New York, Downstate Medical Center, where he was an assistant professor of anatomy, had done much work on the study of medullary, pontine and midbrain function, and structures involved in poliomyelitis. This work later made application to his and Dr. Roofe's publication on the "Introduction to the study of evolution: its relationship to neuropathology," in *Pathology of the Nervous System*, 1968, pp. 14-22.

Dr. Matzke's assignments were not only in research and teaching but in educational administration as well. Such publications as the "Anatomical Needs of Medical Science" in the 1963 issue of the *Journal of Kansas Funeral Directors Association* (Vol. 26), and his publications "The Study of Anatomy; Current Perspectives at KUMC" *(J. Kansas Med. Soc.,* 66:106-110), "Innovations in the Teaching of Anatomy" *(Amer. J. Vet. Res.,* 26:1552-1561, 1966), "Curriculum, Faculty and

Training in Anatomy" (*J. Med. Ed.*, 41:956-964, 1966), and "Cognitive Processes in Learning Neuroanatomy" (*J. Med. Ed.*, 41:690-696, 1966) all illustrate his support and concern in anatomy education. His strong devotion to the improvement of audiovisual aides further illustrates his concern. Today, Dr. Matzke is a consultant to the National Medical Audiovisual Center, where in 1972 he prepared 24 video tape sequences in neuroanatomy now used by over 90 institutions.

Excellence in scholarship and performance are his continuing goals. His association with the department at Kansas as an associate professor of anatomy and later (1962) chairman has proven to be most productive. His comparative studies of various tract systems and his intensive work in the spread of tetanus toxins in the nervous systems are classics. His performance of teaching has always been admired, and in 1960 won him the Jayhawk Award for excellence in teaching. Thus, his professional competence and devotion certainly was a tribute to the department and to Dr. Roofe.

Dr. Roofe was noted for having one of the strongest faculties in anatomy in the history of the department up to that time. Beside Dr. Matzke, there were other dominant figures, such as Drs. W. C. Young and Homer B. Latimer. Associated with the University of Kansas since 1926, Dr. Latimer's studies had a wide range of influence. Pediatricians and obstetricians have been impressed by his reports on postnatal and prenatal growth patterns. His biomedical analysis of body structures is still a classic. Dr. Latimer remained in Kansas until his retirement in 1952. He remained active in research, however, until his death in 1966.

Another member adding strength to the faculty was Dr. W. C. Young, who joined the faculty in 1946, after a successful term as associate professor of primate biology at Yale University. Dr. Young was a prominent leader in the field of animal behavior, especially in the area of sexual behavior affected by hormones in reproductive physiology. In 1962, Dr. Young left KU to accept the position of scientist and chairman of the department of reproductive physiology and behavior, Oregon Regional Primate Center, which he held until his death in 1965.

During this time, the department of anatomy was very secure—the strong teaching and research were an incomparable combination. The only problem appears to have been with cadavers. Though always few, more people were willing their bodies as the prestige of the school established itself. The problem of sharing organs with the medical school in Kansas City, however, was still a nuisance. Through the efforts of Drs. Matzke and Roofe, it was possible to include a provision in the law which allowed the cadavers to be burned, provided a decent burial was given the ashes. Prior to this, cadavers were burned and no record was made of where the ashes were placed. Thus, not only was a burial site arranged, but lot numbers of each cadaver's ashes were now maintained on record. (This was much better than paying a $10,000 fine.)

In 1962, Dr. Paul Roofe retired as chairman but remained in Lawrence as professor of anatomy and zoology. He became professor emeritus in 1970. He continues to maintain an active part in his profession and is devoting much of his time writing a biography of his inspiration—C. Judson Herrick. A noted historian, he has given the Spencer Library of the University of Kansas most of Drs. Herrick's and Coghill's works, plus works of many other noted anatomists with whom he was associated in his lifetime. More information on this collection, which is one of the largest collections of its type in the world, can be obtained through the Director of Libraries at Lawrence.

In 1962, when Dr. Roofe retired, Dr. Matzke became the ninth chairman of the department. His responsibilities as chairman were certainly not insidious because, on July 1, 1962, the department of anatomy was to be moved to the University of Kansas Medical Center in Kansas City. There were several reasons for the move, such as the criticisms from supporting foundations of the "split school" system (especially the Rockefeller Foundation), and the fact that the Kansas City location now afforded an excellent site and hospital building. These reasons, although sound, met resistance for many years. Professors in the scientific departments at Lawrence favored Lawrence as the site of the united school, even if it meant more expense and less clinical material. Kansas City faculty members, on the other hand, were equally certain that the basic science departments should eventually be brought to their city. Thus, even during the year of the move, there was some disagreement as to the move and, as a result, many professors from the anatomy department either transferred to another department in Lawrence, retired, or found jobs elsewhere.

This appeared to be the welcome Dr. Matzke received when he became chairman. Before the move, there were eight faculty members (financed strictly by the department) and after the move there remained only Dr. Matzke and an assistant professor by the name of Dr. G. Thurow, who left soon after. Therefore, Dr. Matzke became the only link between KU and KUMC in moving the anatomy department to Kansas City. His task was collossal in regard to strengthening his staff back to the number previous to the move. Thus, people qualified in the areas of histology, embryology, reproduction, and gross anatomy as teachers and researchers were needed.

Dr. Gilbert S. Greenwald was the first member of the new faculty to be appointed. A PhD graduate in zoology

from the University of California in Berkeley, Dr. Greenwald held a position as instructor and assistant professor of anatomy at the University of Washington in Seattle before accepting a joint appointment in Ob-Gyn. and anatomy at KU in 1961. He also was appointed to a research professorship in human reproduction in the same year. When in 1962 the new department of anatomy was established, he became associate professor teaching histology for a brief time with Dr. Chapman. He also taught endocrinology and reproduction. Dr. Greenwald was appointed KUMC Distinguished Professor in 1973, and today is active both in research and teaching. His areas of interest are in reproductive physiology, endocrinology, and embryology. His research has been in all the above areas with many publications on ovarian and hormonal aspects of reproduction.

The second member to be appointed to the staff was Dr. A. L. Chapman. Dr. Chapman, a PhD graduate from the University of Nebraska in anatomy, arrived in 1962, to become the instructor in charge of histology. His main interests were in electron microscopy and tissue cultures, which he has continued to utilize in his research in the study of lymphoid tissue. His special interest is in the area of leukemia in humans and animals, and the study of viruses associated with these disorders is also being pursued. In 1964, Dr. Chapman was appointed assistant professor; in 1969, associate professor; and in 1974, professor. He is also active in the production of video tapes in histology with the collaboration of the National Medical Audiovisual Center in Atlanta.

Although Dr. Matzke was able to find instructors for the gross anatomy course, such as Dr. Bridgman, who was a postdoctoral fellow from UCLA, it was not until 1963 that this position was permanently filled. Dr. Melvin P. Mohn was appointed to the faculty as assistant professor in charge of human gross anatomy. A PhD graduate from Brown University in biology, Dr. Mohn became associate professor in 1965, and professor in 1971. Dr. Mohn's interests were primarily centered around the study of structure and function of the skin and its appendages, particularly as regards the mechanisms which regulate such processes as growth, differentiation, keratinization, regeneration, and wound healing.

By 1964, the areas of histology, reproduction, and neuroanatomy and gross anatomy were filled. From 1964 we see a supporting trend for each area. Dr. Floyd Foltz was appointed associate professor in 1964, to teach head and neck gross anatomy and assist Dr. Matzke in neuroanatomy. He is a native of South Dakota and a PhD graduate under Dr. Matzke in 1958 from the University of Kansas. Dr. Foltz came to KUMC from South Dakota University, where he taught neuroanatomy. His research interests are in the area of cerebrospinal fluid (CSF) and blood brain barrier. Many of his research applications have been applied to the area of comparative studies of the nervous tract systems, which he did in cooperation with Dr. Matzke. He was elevated to professor in 1971. In 1967, Drs. Matzke and Foltz wrote a highly successful book on neuroanatomy, *Synopsis of Neuroanatomy,* with a second edition in 1972.

In 1968, Dr. Harry Weitlauf became a member of the staff, accepting a joint appointment in the departments of obstetrics/gynecology and anatomy as assistant professor. A native of Washington State, Dr. Weitlauf received his MD degree from Washington University. After his internship at Bellevue Hospital and military service, he took two years of postdoctoral work under Dr. Greenwald at the University of Kansas Medical Center. Thus, after brief training at the Institute of Developmental Biology at the University of Colorado and Marine Biology Laboratory at Woods Hole, he joined the staff and taught embryology, the first of its kind since the move in 1962. Dr. Weitlauf's research interests are in reproductive physiology and embryology, particularly as related to the pre-implantation stages of development. He was promoted to associate professor in 1971. Dr. Weitlauf left the department in 1974 to accept a position at the University of Oregon.

Dr. Jung-Kuei Wei joined the department as assistant professor in 1969. Dr. Wei came to Kansas in 1966 from Tokyo, Japan, as a research fellow under Dr. Mohn before becoming a research associate at Kansas City General Hospital and University of Kansas from 1967-1969. Prior to his term at KU, Dr. Wei was a general surgeon and assistant professor of anatomy at Keio University, Tokyo, where he also obtained his MD and PhD degrees. At KU, Dr. Wei taught regional anatomy of the extremities and was actively engaged in research of bone growth. He left the department in 1974 to return to Japan.

In 1970, two more faculty members joined the anatomy staff: Dr. Douglas H. Poorman and Dr. William M. Steven. Dr. Poorman came from the University of Florida at Gainesville. An assistant professor, Dr. Poorman at first taught various regional aspects of gross anatomy. He now teaches histology. His primary interest in research is with the effects of ultimobranchialectomy and parathyroidectomy on ultimobranchial and parathyroid glands in amphibian *Rana pipiens,* as well as the hormonal control of calcium homeostasis by these glands. In 1973, he was appointed assistant dean of admissions.

Dr. Steven, assistant professor, came to KUMC from the University of North Dakota, where he received his PhD degree in 1970. He teaches various areas of gross

anatomy. His research interests are in the study of phagocytosis of reticuloendothelial (RE) cells. He is presently engaged in the study of RE cells of the choroid plexus and relationships of CSF dynamics in regard to clearance.

In July 1971, Dr. Karl Youngstrom joined the staff as professor of anatomy. A PhD graduate from KU under Dr. Tracy, with the MD degree from Duke University, Dr. Youngstrom has been on the radiology staff at KU Medical Center since 1953. He has been a full professor of radiology since 1965. We have already noted his contributions in the field of anatomy, and further pursuits of these areas appear inevitable.

Another physician who has contributed a great deal to the anatomy department is Dr. Kermit Krantz. Dr. Krantz received his MD degree from Northwestern. He came to KUMC in 1958 as professor and chairman of the department of obstetrics and gynecology. After the anatomy department moved to Kansas City, he was also appointed professor of anatomy. His research interests are in the area of placental permeability. He was instrumental in building a strong division of reproductive physiology, involving a number of departments. Dr. Krantz is also dean of clinical facilities.

In 1971, Dr. William O. Rieke was appointed vice-chancellor for health affairs of the University of Kansas Medical Center. He also received an academic appointment as professor of anatomy. Dr. Rieke received the MD degree from the University of Washington in 1958. He remained in that school's department of anatomy attaining the rank of associate professor. In 1966, he was appointed chairman of the department of anatomy at the University of Iowa and served a year as dean *pro tem*. He came to Kansas from Iowa. Dr. Rieke is well known for his work in cellular immunology and received many teaching awards. Although his direct contributions to the department in teaching and research of necessity are limited, his name on the faculty roster adds considerable prestige to the department.

The year 1971 is obviously significant in that it marks the time when the anatomy department was again at full strength. Before the move to Kansas City, there were eight faculty members in the department at Lawrence, financially supported by anatomy only. In 1971, there were nine faculty members fully supported financially by the department. The other two faculty members were supported by the department of obstetrics and gynecology.

The responsibility for teaching anatomy to the students in physical therapy was transferred from the Lawrence campus to KUMC in 1973. This necessitated the creation of a new faculty position which was occupied by Dr. Patsy Thomason, a student of Dr. Matzke. She has since accepted a position at Georgia State University in Atlanta.

With the progressive increase in the size of the first-year class, projected to reach 200 in 1976, plus the departure of Drs. Wei and Weitlauf, it was necessary in 1974 to engage three new faculty members. Dr. John Clancy, Jr. received his doctoral degree in 1970 from Iowa, under the tutilage of Dr. Rieke. He spent the next four years at the University of Manitoba. His research interests lie in cellular immunology.

Dr. Kuen-Shan Hung received the PhD degree from Kansas in 1969 under Dr. Chapman. He spent two years at the University of South Dakota and three at the University of Southern California. His work is in the area of ultrastructure of the lung.

Dr. Joseph Bast received the doctorate from Iowa State University in 1972. For the next two years he was a postdoctoral fellow at Kansas with Dr. Greenwald. His research interest is in the area of reproductive physiology.

Anatomy has no doubt seen some of its most prosperous years since Dr. Matzke's appointment to the chair of anatomy. With the contribution each faculty member, past and present, has made to maintain the prestige and esteem of our anatomy department, it is inevitable that its accomplishments can only symbolize a unique professional science.

Summary

A total of nine distinguished men have served as chairman of the department of anatomy at the University of Kansas since the department's beginning in 1898. Their achievements and failures, hopes and frustrations, wise and unwise decisions have all contributed significantly to the present department's model of excellence in teaching and research.

In the 1890s, the actual establishment of the department was introduced. Following a period of political meddling in the early 1920s, the department established the foundation for both a strong research and teaching program under the inspired leadership of Dr. George Ellett Coghill. The research contributions by Dr. Coghill remain a model for the department of anatomy, as well as the entire university and country.

The quality of education progressed with each new chairman. In the 1950s, a revolutionary change was experienced under the direction of Dr. Paul Roofe, who advocated a greater integration of all basic sciences. Dr. Howard Matzke followed with the implementation of a multi-sensory method of teaching, which is now emulated by anatomy departments of other states.

At present, 63 years of anatomical sciences under the

auspices of the department of anatomy have existed at the University of Kansas, and 13 years at the University of Kansas Medical Center. These were progressive years and there are many people responsible for this progress. However, most of the larger movements and meanings in the history of anatomy at the University of Kansas transcended from the chairmen of the department. This fact is supported only from the author's critical examination of unpublished multitude of facts, which required evaluation and judgment on his part, and which may inevitably invite error and disagreement.

Acknowledgment

Particular thanks goes to Dr. Howard H. Matzke for updating the portion of the manuscript relating to the acquired faculty members in recent years.

THE JOURNAL promises to be a success in spite of the many discouraging features we have had to contend with. Our advertising business shows a healthy growth and it is only a question of time when it will be self supporting. The society should take the matter in hand at its next meeting and make proper by-laws for the publication of THE JOURNAL and also provide for an editor and board of managers.

Editorial Note, January 1902

Why do we say medical men are poor financiers? Taking into consideration their total lack of financial instruction and lack of experience? I believe they are above the average as a class in financiering. Especially is this true of the younger generation of physicians. They are getting homes and surrounding themselves with comforts. They are (more) prepared to contend with the elements by protecting their bodies with proper covering and clothing when called to make long drives in all kinds of weather than their predecessors. At the same time it is not as it should be. There is not enough business method injected into the general practitioner. He is too careless. Procrastination and hesitancy and a feeling of his own weakness in a financial way is causing him daily loss. . . .

When work is done, such as advice given, a prescription written, an examination made, unless he is entirely satisfied to book the account he should state the fee and collect it. It will often save him a patient to mention the price of his service, even if the patient is considered good, by telling him the fee; he may not have the money, but the physician can assure him it is alright but an understanding is more satisfactory. He appreciates the physician because the physician appreciates himself. We all appreciate a man who is worthy and knows his worth.

The Business Side of Medicine, J. E. Minney, M.D., January 1901

Medicine in Kansas

The Journal of the Kansas Medical Society, 1901-1903

RONALD D. GREENWOOD, M.D., ***Boston, Massachusetts***

THESE WORDS SOUND current but, in fact, were written approximately three-quarters of a century ago by Dr. O. P. Davis, of Topeka, in the early years of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY.

In June 1901 THE JOURNAL OF THE KANSAS MEDICAL SOCIETY began publication. It was not the first medical periodical in the area; already in existence had been numerous other journals such as *The St. Joseph Medical and Surgical Reporter, Kansas and Missouri Valley Medical Index, Kansas City Medical Journal, The Kansas Medical Journal, the Saint Joseph Medical Herald, St. Joseph Journal of Medicine and Surgery, Kansas City Medical Index, Kansas City Medical Record, The Kansas Medical Index, The Western Medical Journal* (Ft. Scott), and numerous others in nearby states. At the inception of THE JOURNAL, the medical society was small but hoped for 2,000 members in the near future.

The first issue of THE JOURNAL reported the proceedings of the 35th annual session held at the City Hall, Pittsburg, Kansas, May 1, 1901. Dr. A. C. Graves presided and addresses were given by the Hon. John Randolph and Drs. George Boyle, Louisberg; J. W. Porter, Pittsburg; and H. E. Pearse, Kansas City. These were printed in full and the proceedings of the business sessions and lists of members were noted. The remarks and minutes constituted THE JOURNAL; there were *no* scientific articles. An explanation for the absence was printed.

> This is the first number of *The Journal of the Kansas Medical Society*. We hope to make it in reality what it is in name. That our Society needs an organ of some kind is in fact pretty generally recognized; that it can support a regular monthly journal is the question we hope to prove, and we have no doubt of being able to do so.
>
> When you receive this number you will know that the committee to whom was referred the matter of publishing the proceedings has acted upon the authority given it, and you are receiving the first installment of its report.
>
> We will arrange to publish all of the business proceedings in the first two or three numbers so that more matters may be readily referred to.

The president of the Kansas Medical Society was Dr. L. H. Munn, of Topeka. The Society also hoped that members would "recognize some proprietorship in the journal" and consider its pages open to them. The subscription price was $1.00 per year.

It was not intended that THE JOURNAL be simply a publication of proceedings but, as stated, the first issue and a portion of the second issue were devoted to these.

> The number of specialists has been multiplying of recent years until now there is scarcely an organ or function of the body which is not presided over by a devotee.

The first paper to appear in THE JOURNAL (this was a paper also read at the 35th Annual Meeting) was "Heredity and Disease," by S. W. Williston, dean of the school of medicine at the University of Kansas at Lawrence.

Modern concepts of hereditary disease and predisposition to disease were to come in future years. Dr. Williston stated the concepts of the day, and even some of those who heard the paper read could not agree with certain ideas. The following is his paper as read and printed in 1901.

HEREDITY AND DISEASE.

BY S. W. WILLISTON, LAWRENCE, KANSAS.

Dean of School of Medicine, University of Kansas.

To none are the many and abstruse problems of heredity of more profound importance than to the physician. The physician is, above all others, a biologist. His whole vocation is a continuous solving of the problems of human life. That he deals chiefly with the abnormalities of living organisms makes him none the less a biologist, for his knowledge of the abnormal can come only from a knowledge of the normal; to be a pathologist he must first be a physiologist.

And heredity lies really as the basis of biology. That a kitten resembles its parents in color, and in form, is not so

From the Children's Hospital Medical Center and Harvard Medical School, 300 Longwood Avenue, Boston, MA 02115.

great a wonder as that a cat gives birth to kittens and not to toads, frogs, or lobsters. Because of the laws of heredity we learn to expect certain things, and expect them absolutely as we expect that the sun will shine upon the morrow, or that the winter will follow the summer.

That a child will resemble his parents or his forebears, we know; that he will also not resemble them, we expect, because otherwise there would be no progress in life, no development, no evolution. But, there remain many, very many problems in the laws of heredity which are yet unsolved and will remain unsolved far into the future. I can say assuredly that the solution of many of these must and will affect the physician in his daily vocation most intimately.

Within recent years two schools of biologists have arisen which have for their foundation the two sides of a broad problem in biology either of which, if established, must materially affect the profession of medicine; and yet, seldom are the views of either mentioned by medical men or medical journals. This is more to be wondered at from the fact that their refutation or establishment must eventually rest upon that class of proofs which comes most frequently under the observation of medical men. I refer to those theories of heredity, the adherents of which are known as Neo Lamarckians and Neo Darwinians or Weissmanians. The question was one primarily of the causes of organic evolution—not of evolution itself, for that is already firmly established, but of the methods of evolution. Should the views of the latter report ever be firmly established, they would modify the teachings of every text-book in medicine.

This, then, is my apology for presenting to you briefly, a theory of evolution and heredity which has been threshed almost thread-bare by naturalists without positive results, but which nevertheless already has some practical bearing upon the practice of medicine. The question of interest to us may be stated in a few words: Are acquired characters ever transmitted from parents to offspring? Can accident, incident, or condition of life ever affect the child specifically? Does the child ever inherit any predisposition to specific diseases from the father or mother if his or her ancestors show no such tendency? The predisposition to gout, for instance, is unquestionably hereditary. Perhaps fifty per cent of those afflicted with the disease having a family history of it. As certainly, however, gout does arise in many cases from causes peculiar to the individual. Would the children of such a parent have any predisposition whatever to the disease? I believe that the larger number of medical men would unhesitatingly answer this question in the affirmative. And yet, the majority of naturalists at the present time would answer almost as unhesitatingly no. They claim, with insistence, that no trait, or peculiarity, no anatomical or physiological anomaly can be transmitted to the child, which has arisen in him from the parent, after birth. That the sperm-cell of the father, or the ova of the mother, when once formed in early life, cannot be modified by any accidents or conditions of the specifically later life.

It is a common observation of medical men that injuries and mutilations are never inherited from the parent. Who ever heard of a child being born without a finger, hand or foot, because his father or mother had had either of these members amputated? The Jew for many centuries have almost invariably practiced circumcision. But, the prepuce of a Jewish boy in 1901 is no shorter than it was in the Jewish boy of the year 1. Why, then, should the accident of disease in the parent ever predispose the child to the same disease? If the physician can establish such a fact in a single instance, he will do more than the professional naturalist has been able to do in twenty years of research and experimentation. Even Brown Sequard's famous experiments in the hereditary production of epilepsy in the guinea pig, does not establish the theory any more than does the production of epilepsy in the child of an alcoholic inebriate.

The term heredity has been used in a very loose way, and still is, even in our best text-books of medicine. It must be accepted that no bacterial or infusorial disease can in any way be transmitted by heredity. Syphilis never is under any conditions hereditary. It may be, it often is, congenital, but in all such cases it is transmitted by direct infection, not by heredity. That the causative organism is carried in the spermatozoon, even without actively infecting the mother in no ways makes the disease hereditary, any more than would the direct innoculation of the germ carrying spermatozoa into the blood of the healthy child. The word, as applied to syphilis and other germ diseases, is purely a misnomer, and should be abandoned. The actively infected syphilitic father may beget a healthy child. Would that child have any predisposition to syphilitic infection because his father was suffering with the disease at the time of conception? I have never heard such an idea broached—possibly it has been, but I would have no faith whatever in the theory. Why, then, should we suppose that tuberculosis in the father or mother in any way predisposes the child to the same disease. It is doubtful whether the tubercle bacillus may be ever transmitted, as is commonly the case with the organism of syphilis, through the spermatozoon; it is not probable that it is often transmitted through the ovum, nor is it commonly transmitted through the placenta. The cases are certainly few whereof tuberculosis of the adult has arisen from latent congenital infection.

Can one, then, ever inherit a predisposition to tuberculosis from the parents? I believe not; assuredly not if the tuberculosis of the parent has arisen after the birth of the child.

If, however, we do accept the theory of the non-transmission of and predisposition to specific diseases, unless there has been a previous family history of the same tendency, we must admit that the vitality of the parents, at or before the time of conception of the child, may often materially affect the vitality of that child. Alcoholism in the father may be an etiological factor of the neuropathic child. It may even predispose the child towards certain disorders, such as epilepsy, which are among the direct results of excessive use of alcohol in the individual. But, will alcoholism in the father predispose the son towards an undue liking for alcoholic liquors? I believe not, unless it be indirectly in the search for temporary relief from disorders caused by impaired nervous vitality. There is perhaps no more striking instance in all nosology of true hereditary transmission than is afforded in that peculiar affectation known as Hæmophilia. Here the disease is almost always transmitted from the affected grandfather through the latent mother to the grandson, and such transmission is said to be almost certain. Nevertheless the disease may at times arise spontaneously, without any ancestral history.

Would the grandson of one in whom the disease had thus arisen show any predisposition to bleeding? If the physician can prove this beyond cavil in a single instance he will have settled one of the most profound problems now before the naturalist.

Excluding germ diseases the list is not large of affections in which heredity is ascribed as an etiological factor. I may mention the larger part of them. Next to haemophilism, perhaps there is no disease in which heredity is so largely a causative factor as gout, where the history of the disease has at times been known to run in the family for centuries even. In diabetes mellitus and in insipidus, heredity is said to play an important role, and no one can question the tendency to obesity as being hereditary, though we may that of rheumatism. It is also said that perhaps fifteen or twenty per cent of cases of cancer arise from etiological causes. If, as I suppose, cancer is a germ disease, though the recently reported discovery of the causative organism awaits confirmation, the tendency can be only general and not special, and I will not apologize for a disbelief in even that. The tendency to hay fever is hereditary, particularly in those with a neurotic taint. Brachycardia is a family trait, and angina pectoris has been observed through several generations. The peculiar condition of the blood vessels often resulting in apoplexy, is sometimes inherited. Progressive muscular atrophy often and the neural form always is hereditary. It is said certain forms of ataxia are hereditary as are also chorea, sick headache and hysteria. Epilepsy seems also to be and neurasthenia doubtless is. Finally insanity in various forms has long been accorded the same distinction.

It is pretty firmly established in the evolution of organism that those regions or parts which have been long firmly established are less liable to variation, that they are more fixed than others of more recent evolution. The leaves of all apple trees, for instance, scarcely differ from the parent stock, while flowers and fruit permit the most wide variation. Every anatomist knows that anomalies in the human body do not occur in all parts with equal frequency. An anomaly in the osseous system is exceedingly rare. So, too, are anomalies of the eye and ear less rare than there are of the digestive organs. Muscles are more variable, while the circulatory system is perhaps the most variable of all. Man's evolution is now chiefly through the nervous system. He has already reached for the large part of his organs and tissues the extreme limit of specialization. Anomalies in the distribution of the nerves or even in the central nervous system are common. Who ever saw two brachial plexuses just alike?

A hereditary predisposition to disease must mean a functional anomaly which finds expression in those organs or parts whose vitality is most affected by that anomaly. If one reflects, will he not perceive that the larger part of those diseases which show a marked tendency to hereditary transmission, are directly or indirectly related to the circulatory and nervous systems? Is this fact a mere coincidence, or is it based upon established laws of organic evolution?

Increasing insanity, neurasthenia, hysteria, and numerous other neurotic disorders we ascribe to the increasing struggles for existence of the higher civilization and their hereditary perpetuation. Why should not the strenuous physical life of the poor or the uncivilized tend toward a greater hereditary tendency of the diseases of the digestive system, of the liver, lungs, muscles, and bones?

In conclusion permit me to revert to the theory that disease predispositions which are not themselves inherited by the parent can not be transmitted to the child. Should we carry this theory to its ultimate conclusion the argument would seem a *reductio ad absurdam*. If only inherited diseases can be transmitted, then Adam must have been inflicted with all the inherited diseases. The Weissmanian must admit the tendency towards certain diseases, like other characters, may have been in the individual and would be transmitted by her, otherwise there would be no change in life. But he fails absolutely and entirely in giving any cause. So far all he can say is that their origin is due to chance.

Personally I do not believe in the theory of the non-transmission of acquired characters, but that many, very many naturalists do believe it, is the excuse for this paper. In any event one thing is certain, it is not proven that a diseased parent transmits any predisposition whatever to that same disease in his child.

Other papers followed. The first of these are noted here by title merely to show the types of works included:

Some Natural Defense Methods of the Body, J. M. Latta (Millerton, Kansas) ;

Pterygium, R. S. Magee (Topeka) ;

Just Rewards in the Medical Profession, K. B. Richardson (Kansas City, Mo.) ;

Hydrobramic Ether as an Anaesthetic, G. A. Boyle (Louisburg) ;

The Microscope—Its Importance to the General Practitioner, C. E. Munn (Topeka) ;

Malaria, G. A. Boyd (Baldwin) ;

The Causes and Prevention of Blindness, G. E. Bellows (Kansas City, Mo.) ;

Hereditary Insanity and Some Suggestions for Prevention, L. L. Uhls (Osawatomie) ;

Locomotor Ataxia in its Modern Aspect, J. Punton (Kansas City, Mo.) ;

The Psychic Element in Hysteria, M. P. Sexton (Kansas City, Mo.) ;

The Union of Scientific Thought and Clinical Practice, H. Sewall (Denver, Colorado).

It is of note that articles from outside Kansas also appeared. In the December 1901 (Vol. I, No. 7) issue appeared an article, "Alcohol as a Medicine," by the eminent Nathan Smith Davis of Chicago.

By mid- to late 1902, more news notes and editorial material, advertisements, and notes from other medical journals were present. The important topics of the day were: diphtheria, inherited degeneracy, acute mastoiditis, syphilis of the eye, causes of septic peritonitis, and railway injuries. By the conclusion of Volume II (May 1903), THE JOURNAL was 400 pages in length.

Some especially interesting articles for the interested

physician able to locate them are "Catatonia," by G. C. Goddard of Leavenworth (April 1903); "The General Practitioner as a Specialist," by O. P. Davis of Topeka (March 1903); "Appendicitis," by M. C. Porter of Clay Center (December 1902); and "Purulent Pericarditis," by G. M. Gray of Kansas City, Kansas (December 1902). The last article is of some interest and made two important points: (1) the importance of early free drainage; and (2) opening the pericardium in a way best calculated to avoid injury to the pleura and heart.

The article by O. P. Davis (the source of the initial quotation above), related the feelings of the day of general practitioners, of whom Davis was one, toward specialists. Although patients were referred to specialists by the general practitioner, he felt that many were seen initially by the specialist and that "the generalist has come to have supervision of the physical status of the people."

His feelings were obvious: "And the latest and newest specialty is as jealously guarded by its votaries as ever Neptune watched the sea, lest some of the generalists should essay to dip into their pools with impious hands." He felt that the generalist had an important role: "But the general practitioner of the higher order should reserve for himself as his distinctive and special prerogative the determination of the physical state of the patient as an organic being. By asserting himself in this field and by supporting his claim by capacity and equipment, he becomes a specialist in the higher sense to whom all the other specialists are tributary."

During these two years, THE JOURNAL developed rapidly and became the official organ of the state medical society for news and comment, and the leading medical periodical in the area, while the other area medical journals did not survive.

Acknowledgement

Francis A. Countway Library of Medicine of Harvard Medical School, Boston, provided use of historical materials.

. . . In this connection I cannot resist calling your attention to a professional failing in which many of us have been the aggressors and most of us the victims: It is natural for us, seeing the patient long after the injury, with all the advantages of hindsight, to think that his fellow practicioner has erred in diagnosis and treatment.

Possibly he knows his colleague, he has a brief experience, has been sending his work to a competing surgeon, or he is a professional rival of whose skill he is secretly envious, but how little he knows of the circumstances originally in the case, of the limited time for diagnosis and the slight opportunity for treatment. Above all, he can know nothing of the multitude of factors permitted by the patient, or, of the ignorance and prejudice of the half way obedience to his orders, but one thing he can count on with certainty, and what a shame it is to us, that it is so. That the surest way to a physician's interest is a skillful disparagement of his predecessor. How easy it is even by a lifted eyebrow, and a discreet silence to make a bid for that personal faith we all court.

President's Address, J. W. May, M.D., 36th Annual Session, 1901

M. et Sig:

A History of Pharmacology at Kansas University

STANLEY R. NELSON, M.D., *and* EDWARD J. WALASZEK, Ph.D.,
Kansas City, Kansas

PHARMACOLOGY in Kansas developed alongside the school of medicine, and the early struggle within the university and state to provide quality medical training is reflected in the history of pharmacology. Governor Carney signed the organizational act of the Kansas University in 1864, which included a department of medicine as one of six departments of the university. It was 35 years (1899) later that the school of medicine was established. Nevertheless, there was an interest in medical education during this interval and, on March 25, 1880, the faculty sent the regents a proposal for a preparatory, or first-year medical course.

Initially, the course was directed by George E. Patrick, professor of chemistry, but it was taken over by Edgar Henry Summerfield Bailey, when he joined the department of chemistry in 1883. E. H. S. Bailey was born in Middlefield, Connecticut, September 17, 1848. He graduated from Sheffield Scientific School at Yale (1873), studied in Strasbourg, Germany (1881), and then went to Illinois Wesleyan University where he obtained his PhD degree in 1883. Dr. Bailey believed that chemistry not only should be theoretical but also have practical value. This broad approach to chemistry permitted him to teach an excellent course in toxicology and materia medica to students in the medical course. This was the first "pharmacology" taught at the university, and the breadth of his teaching can be seen by a portion of the course description in the university catalog. The course included ". . . a discussion of the sources, properties, methods of detection, post-mortem appearances, fatal doses and methods of treatment in the case of inorganic or organic poisons."

Dr. Bailey was particularly interested in preventing adulteration of food and water, and he analyzed medicinal agents at the request of physicians. In 1904, at the request of the Douglas County Medical Society, he analyzed a popular medicine and concluded: "A solution similar to Liquozone would be made by passing sulphur dioxide gas into water. . . ."[1]

It was difficult to maintain a high quality medical course with lectures from various departments and by 1885 the course was floundering. Fortunately, in that year the legislature passed a law creating a State Board of Pharmacy and a School of Pharmacy at the university. Lucius Elmer Sayre was named dean of the school, and from the beginning he gave strong support to the medical course by initially teaching physiological chemistry and later adding materia medica, pharmacy, pharmacognosy, and prescription writing.

Dr. Sayre was born in Bridgeton, New Jersey, in 1847. He graduated from the Philadelphia College of Pharmacy in 1886, and worked for a time as a pharmacist and manufacturing chemist. Just prior to coming to the university, he was lecturer in pharmacy and demonstrator of pharmaceutical chemistry at the Women's Medical College in Philadelphia.

The one-year preparatory medical course was offered for 19 years (1880-1899). In 1899, when the four-year medical school was established, there was expansion of the one-year medical course to two years. However, it was not until 1905 that a four-year curriculum was decided upon. This curriculum was poorly conceived, and was disorganized. The reason for this disorder was in part due to the lack of planning before the school started. In 1894, Dr. Simeon B. Bell, a Kansas City physician, offered land in Rosedale for a hospital and clinical facilities to start a school of medicine, but the offer was good for only ten years and would expire in 1904. A one-year extension was obtained and, in 1905, the legislature finally voted in favor of accepting the gift. The final acceptance of the land came before Chancellor Strong and the regents had evaluated the needs and costs of a four-year school. To make matters worse, the regents wanted to open the clinical department immediately, in 1905, before a hospital or money was available. The clinical department was able to open in 1905, by merging with three medical schools in Kansas City: the College of Physicians and Surgeons, the Medico-Chirurgical College, and the Kansas City Medical College. Students, faculty, and facilities were absorbed from these institutions and the courses in the department of pharmacology and therapeutics reveal the overall confusion. Drs. Bailey, Sayre, and Havenhill taught introductory pharmacology in Lawrence. Dr. Howard H. Hoxie, dean of the clinical department,

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along with Drs. Gayle and Longenecker, in Kansas City, taught therapeutics. Additional lectures were given in electrotherapy by Drs. Scott and Clark. By the next year, 1906, the "home" of the medical school was completed; the Eleanor Taylor Bell Memorial Hospital, a laboratory and an outpatient department were built on the land given to the state by Dr. Bell (the hospital was named in memory of his wife).

On moving into the new buildings in 1906, a new curriculum was formed with pharmacology now taught in the department of materia medica, pharmacology and physiological chemistry. Three years later (1909), the department name was changed to pharmacology. therapeutics, and toxicology. Pharmacology was taught primarily by the Lawrence professors in chemistry and the school of pharmacy from 1906 to 1913. The courses during this period were: (1) Introductory Pharmacology, which included preparation of medicines and prescription writing by Havenhill; (2) Materia Medica, by Sayre; (3) Laboratory work in pharmacology (in conjunction with the Board of Health), designed to ". . . ascertain the physiological action of certain unknown compounds that are placed on the drug market"; and (4) Toxicology, by Bailey.

In 1913, the administrative plan of Dean Mervin Sudler (professor of surgery) and Chancellor Strong was to provide the medical school with its own physiology and pharmacology courses. This was attempted by naming Dr. Samuel Alexander Matthews as head of a new department, the department of physiology and pharmacology. Since Dr. Sayre and his group in the school of pharmacy still taught in the department of pharmacology, therapeutics and toxicology, pharmacology as well as physiology were now taught in two departments.

It was no secret that Dr. Matthews was an eccentric, often outspoken, man. Even Chancellor Strong learned of his ways when he received a letter from a woman stating Dr. Matthews and a student tried to get animals from her sister to use in the laboratory. The woman's sister, an antivivisectionist, was ill days after the stressful visit. Dr. Matthews was highly critical of the management of the school of medicine, but he was an effective teacher and a successful investigator. Born in Indiana County, Pennsylvania, April 17, 1864, Dr. Matthews grew up in Iowa. He obtained his MD degree at the University of Michigan in 1895. He was an assistant in pharmacology at the University of Michigan from 1893 to 1897, while Dr. Arthur Robertson Cushny was department chairman. Dr. Cushny became chairman replacing Dr. John J. Abel, who went to Johns Hopkins and established the second chair of pharmacology in the United States. Dr. Cushny was a pupil of Dr. Rudolph Schmiedeberg from 1891-1893, and through Dr. Schmiedeberg began his studies on the action of digitalis and other glycosides on circulation. Drs. Matthews and Cushny had worked on digitalis while at Michigan. Dr. Matthews left Michigan in 1897, and took a position in physiology at the University of Chicago, later becoming the director of the division of experimental therapeutics (1907 to 1913) at that institution.

Dr. Matthews was a charter member of the American Society of Pharmacology and Experimental Therapeutics. In 1908, Dr. Abel asked him to attend a meeting on December 28, for the purpose of organizing a new society for pharmacologists. The meeting was held in Dr. Abel's laboratory at Johns Hopkins University with 18 pharmacologists present. During this meeting, the American Society of Pharmacology and Experimental Therapeutics was founded, and at the end of the meeting Dr. Abel announced the establishment of the *Journal of Pharmacology and Experimental Therapeutics.*

The architects of the school of medicine during its most trying period were Chancellor Strong and the dean of the school of medicine, Dr. Mervin Sudler. In 1915, the very existence of the school of medicine was in question due to limited funds from the legislature. In addition, the threat of loss of accreditation made Dr. Sudler's decisions more difficult. The hospital dispensary was run by a part time faculty, several of whom provided few services to the school of medicine. This was embarrassing to Dr. Sudler, who was also plagued by individuals like Dr. Matthews, who frequently reminded him that the clinical faculty used the medical school largely to further their private practice of medicine and did little teaching. This criticism was also made by Dr. Flexner, in 1909, plus statements that there was a lack of organization between departments and that there was too little control over the staffs of the outpatient departments and hospital.[2]

In 1916, Chancellor Strong suggested to Dr. Sudler that medical and college physiology departments be consolidated into one department under Dr. Matthews. Dr. Sudler was aware of accreditation problems and, based on a department of education report from New York, a medical school needed at least six full time instructors in order to be a quality institution. Although Dr. Matthews made Dr. Sudler's job difficult with frequent criticism, Dr. Sudler readily admitted it would be almost impossible to get a man with a medical degree to teach physiology and pharmacology for what Dr. Matthews was being paid ($2,500).

But Dr. Matthews' continued statements detrimental to the University of Kansas and particularly the school of medicine made it necessary not to renew his contract for 1918, even though his teaching and research were good. He subsequently became head of physiology de-

partment at the University of Alabama, 1917-1919. In 1919, he was named head of the department of physiology, therapeutics and pharmacology at Loyola University in Chicago, an appointment he held until his death in 1928.

Dr. Sudler recommended Dr. George B. Roth to take over pharmacology—moving this department to Rosedale—and to consolidate the physiology departments under Dr. Ole O. Stoland. Roth, in the Hygiene Laboratory of the U. S. Public Health Service in Washington, D. C., agreed to come to Kansas University for an annual salary of $2,750.[2] Roth received his MD degree in 1909, from the University of Michigan. He was an instructor in pharmacology at Michigan from 1910-1913. An active research worker and a good teacher, he wrote to Chancellor Strong on May 25, 1918, that conditions at Rosedale were unsatisfactory for him, and that if pharmacology had to be taught at Rosedale, he would resign.[2] Unfortunately, other arrangements could not be made and Roth left KU after only one-half year. Besides being an excellent research worker, Roth was interested in the history of pharmacology and wrote a paper on the pharmacologist, Horation C. Wood,[3] and on the Morton ether inhaler.[6] He returned to the Public Health Service (Hygienic Laboratory) after leaving the University. He died in Washington, D. C., May 23, 1967, at the age of 88.

In 1918, Dr. Stoland was asked to take over the teaching duties in pharmacology on the Rosedale campus. He agreed to do this and, in 1919, he was listed as chairman of separate departments, physiology and pharmacology. Dr. Stoland was born in Beresford, South Dakota, July 30, 1881. He received his BA degree from the University of South Dakota in 1905, MS (1911) and PhD in physiology (1913) from the University of Chicago. He was on the teaching staff in physiology at both the University of Chicago and the University of South Dakota prior to joining the Kansas University faculty in 1916. Dr. Stoland was chairman of the departments of physiology and pharmacology until 1924, when he became secretary of the school of medicine, a post he held until 1942, when he became professor emeritus of physiology.

In 1925, the pharmacology course taught by Dr. Stoland and his staff consisted of 54 didactic hours and 108 laboratory hours. The course was taught on the Kansas City campus (Rosedale became incorporated into Kansas City, Kansas) with the instructors commuting from Lawrence.

Dr. Sayre also taught at Kansas City, the second semester of the sophomore year. The courses were introductory pharmacology and materia medica, which met at 11 AM each Friday. Materia medica, first taught to medical students in 1885 by Professor Sayre, was last listed in the 1925-1926 *Bulletin of Kansas University*. This concluded a 40-year period in which Professor Sayre taught basic pharmacology to medical students.

In 1925, Dr. Robert M. Isenberger joined the department of physiology and pharmacology as assistant professor. He received his MA degree in physiology at the Kansas University under Dr. Stoland in 1923, and then went to Western Reserve School of Medicine, where he received his MD degree in 1925. Dr. Isenberger taught pharmacology in the school of medicine at both the Lawrence and Kansas City campuses. By 1928, he was largely responsible for the pharmacology course taught at Kansas City and in 1930, when a separate department of pharmacology was formed, he was named chairman. During the 1930s, the pharmacology department consisted of Dr. Isenberger and two or three assistants. Those staff members present during this period included Dr. William H. Algie, who received his MD degree from the University of Kansas in 1927, and also held an appointment in the medicine department. Dr. L. L. Boughton, an instructor in pharmacy, also helped with some of the teaching.

The main pharmacology course taught in the late 1930s at Kansas City consisted of 64 hours didactic and 30 hours laboratory. Probably the first course in clinical pharmacology at Kansas University was taught by Drs. Isenberger and Algie during this period. In 1939, Dr. Jesse Rising joined the medical school faculty with appointments in pharmacology and medicine, and he has continued to play an active role in the pharmacology department through the years. He served as president of the Kansas University Medical Alumni in 1957, and in 1960 he became director of Postgraduate Medical Education at the Kansas University Medical Center.

Most students viewed with apprehension the move from Lawrence to Kansas City at the end of the first 1½ years of medical school. The students generally moved into boarding houses within a half-mile radius of Eleanor Taylor Bell Hospital and settled down to "pathology, food poisoning and big city devilment." General student attitudes about pharmacology can be obtained from the medical student yearbook, *Jayhawker MD*. In the 1949 *Jayhawker,* the senior class willed to members of the sophomore class "that master storyteller and first-friendly-face-in-Kansas City as he emerges from his heap of charts, graphs and vomiting dogs—Dr. Isenberger." Mark Carroll was a loyal assistant to Dr. Isenberger. For many years he helped set up the student laboratories.

Others with appointments in pharmacology in the 1940s were Drs. Roy C. Boyle and Roy R. Beyer.

In October 1950, the Medical Sciences Building was

started (later named Wahl Hall, after Dr. Harry Wahl, chairman of pathology and dean of the school of medicine, 1924-1948). The building would bring the department of pathology and pharmacology from the "Path" building at the old hospital site to the hospital complex a mile south at Rainbow and 39th Street, Kansas City, Kansas. This was also the year of the first Student Research Day, which has remained an annual function.

In 1951, Dr. W. Clarke Wescoe and Dr. Ray E. Green joined the department of pharmacology. Dr. Wescoe's research interest included the mechanisms of action of curare. Prior to coming to Kansas University, he worked with Dr. Walter Riker in developing an antagonist to curare. Dr. Wescoe was assistant editor of the *Journal of Pharmacology and Experimental Therapeutics* for five years, and became editor in March 1953. His leadership abilities were recognized early and he represented the department in many administrative matters.

In September 1951, Dr. Franklin D. Murphy, dean of the school of medicine, was named chancellor of the University of Kansas, and Dr. Edwin H. Hashinger was named acting dean of the school of medicine. In July 1952, Dr. Wescoe was named dean of the school of medicine and director of the medical center.

The Medical Sciences Building was completed in June 1952, and was occupied by 116 sophomore medical students in September 1952. The building had corridor connections to the Hixon Building on all floors except the 3rd floor, where the Clendening History of Medicine Library and the History of Medicine offices were located. The Medical Sciences Building housed the departments of pathology, pharmacology, and microbiology. Only the psychiatry department remained on the original hospital site on Southwest Blvd.

In 1953, Dr. Vernon E. Wilson was hired to fill a newly created position of dean of student affairs. He was also given an appointment in pharmacology, having received training in pharmacology at the University of Illinois. He received his MD degree from the University of Illinois in 1952. Dr. Wilson left the Medical School in 1959, to become dean of the University of Missouri School of Medicine, a post he held for eight years.

Some integrated teaching was carried out in 1952-1953, when for the first time the entire sophomore year was taught at the Medical Center. This form of teaching was done through a curriculum committee headed by Dr. Robert E. Stowell, chairman of pathology department. The course consisted of integrated seminars and patients were present when possible. The comment, "students see sick people earlier," was a major theme in this program and in curriculum revisions in the future. Oral examinations were given the students by members of four departments: pathology, microbiology, pharmacology, and medicine. Four instructors from these departments examined three students for thirty minutes.

The following year, 1954, the numerical grading system was replaced by the quality evaluation of superior, satisfactory, and unsatisfactory. The use of grade cards was established with a check list of evaluation categories on the back of the card. This system has now been in use 20 years. In addition, the third and fourth years were reduced from eleven- to nine-month terms. Eleven-month terms had been used in the clinical years since 1943.

In 1955, Dr. Lawrence Peters came from Tulane to be chairman of the department of pharmacology. At that time, departmental members were Professors Isenberger, Peters, Wescoe; Associate Professors Green and Rising; Assistant Professors Huggins and Wilson; Assistant Clinical Professor Algie; and Instructors Boyle and Cohn.

Dr. Peters was born in Hague, Saskatchewan, Canada, in 1917, and received his BS degree from the University of Saskatchewan in 1938. He received his PhD degree in pharmacology from the University of Minnesota in 1942, and MD degree from Western Reserve in 1950. He was professor and chairman of the department of pharmacology at Tulane (1953 to 1955) prior to coming to the medical school in 1955. His research interests involved renal excretion. His wife was in his medical class at Western Reserve, and she specialized in pathology. Dr. Clyde B. Huggins came to the department as an assistant professor September 1, 1955. In 1956, the following individuals joined the department: Dr. Hugh Mathewson, lecturer; Dr. Bert Lum, instructor, and Dr. Edward J. Walaszek, Assistant Professor. In 1957, Dr. Bruno Minz, a native of Lodz, Poland, and director of research and education at Osawatomie State Hospital, was appointed professor in the department of pharmacology.

At this time (1957), the major objectives of the general pharmacology course were given in the *Bulletin of Kansas University* as follows: ". . . to establish a rational pharmacological basis for drug therapy; eighty-one hours lecture, thirty hours laboratory and demonstration, fourteen hours conference." A course in clinical pharmacology was offered to fourth-year medical students.

In 1959, the pharmacology department received one of 98 training grants awarded to basic medical sciences. The grant was for $43,029, with Dr. Lawrence Peters project director.

For the school year, 1959-1960, 102 first-year students enrolled into medical school on the Lawrence campus. The student census for this 55th year of the

school of medicine was 293 for the second, third and fourth years, making a total of 395.

On July 1, 1960, Dean Wescoe was named chancellor of Kansas University, succeeding Dr. Franklin Murphy, who left to become chancellor of the University of California at Los Angeles. Dr. C. Arden Miller was named dean of the school of medicine and director of the medical center the same year. Dr. Miller joined the medical school faculty as instructor in pediatrics in 1951. He received his MD degree from Yale University in 1948.

Departmental activities increased considerably during the early 1960s. Dr. Deane Calvert joined the department in 1960, and Dr. John E. Chapman, who obtained his MD degree at Kansas University in 1958, was a postdoctoral fellow under Dr. Walaszek in 1960-1961. He then joined the pharmacology staff and, in 1963, was appointed to a newly created post—assistant dean in charge of students and educational affairs. Dr. Chapman is presently dean of the school of medicine at Vanderbilt University School of Medicine. In 1962, Dr. Stata Norton joined the department of pharmacology as assistant professor. She obtained her PhD degree from Wisconsin, and was pharmacologist at Burroughs Wellcome Company for 13 years prior to joining the medical school faculty. Dr. Floyd Leaders also joined the department in 1962, having received his PhD degree the same year from the University of Iowa. Dr. Robert J. Rubin joined the department in 1963, after completing postdoctoral training at Yale (1960-1963).

In August 1964, the department was host for a very successful fall meeting of the American Society for Pharmacology and Experimental Therapeutics, which was held on the Lawrence campus. There were 25 scientific sessions, consisting of 250 ten-minute presentations. Dr. Harold P. Rusch, director of the McCardle Memorial Laboratories, University of Wisconsin, was speaker at the society dinner.

Dr. Peters left the school of medicine in 1964, to become executive vice president of McNeil Laboratories. He is now retired and lives in Ft. Meyers, Florida. Dr. Walaszek was selected the new chairman of the department. Born July 4, 1927, he received his BS degree in 1949 (University of Illinois) and his PhD degree in 1953 (University of Chicago). He was a research fellow under Professor J. H. Gaddum, University of Edinburgh, Scotland, 1954-1955. It has been during the ten-year interval since he became chairman that most of the present staff joined the department. These include: Drs. Daniel Azarnoff (medicine 1962, pharmacy 1965), Edwin Uyeki (1965), Stanley R. Nelson (1966), John Doull (1967), M. Kent Shellenberger (1967), Aryeh Hurwitz (1968), Alan M. Poisner (1968), Curtis Klaassen (1968), Don W. Shoeman (1970), Ruben Bunag (1970), Carlos Dujovne (1970), James Crow (1971), Ralph Kauffman (1972), David Huffman (1973), Thomas Pazdernik (1973), Rolf Habersang (1974), Charles Hignite (1974). Others, no longer in the department and not previously mentioned, include Drs. Khalid Sabih (1968), Milos Hava (1968), Thomas Fitzgerald (1969), Juoko Tumisto (1971), Suk Han Wan (1971).

Of major benefit to the department of pharmacology was the procurement of a clinical pharmacology and toxicology center grant, in 1968, with Drs. Azarnoff and Doull as co-directors. Included in the grant were funds

(Continued on page 351)

It is well known to physicians that Syrup of Figs is a simple, safe and reliable laxative, which does not irritate or debilitate the organs on which it acts, and, being pleasant to the taste, it is especially adapted to ladies and children, although generally applicable in all cases.

Advertisement for California Fig Syrup, 1902

The President's Message



Congratulations to THE JOURNAL OF THE KANSAS MEDICAL SOCIETY on its 75th Anniversary! Certainly ours is a publication of which we can all be proud. Our thanks to Doctor David Gray, to Val Braun, and to the Board and Staff who produce it. Thanks, also, to those of you who contribute articles, for these are the body of our JOURNAL.

Further—in items related to the history of medicine. Efforts are being made for a new printing of "Kansas Doctor," the book our Society prepared and had published in its 100th anniversary year. I have been re-reading the accounts of Doctor Crumbine, our near-governor Doctor J. R. Brinkley, and many others. Ours has been a fascinating history!

The Kansas Medical Society is working into the new year—especially in the fields of professional liability and legislation, emergency medical services, regional health planning and health systems agencies, and the availability and distribution of primary medical care for all Kansans.

So—to work. We are told that few people are killed by hard work, but that many are frightened half to death by the thought of it.

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

Birth Without Violence

It would be pleasant, as part of this natal celebration, to report that the birth of the JOURNAL OF THE KANSAS MEDICAL SOCIETY was greeted with some of the same spirit and enthusiasm which is being attributed to the birth of the nation (which seems to be upstaging us this season). As far as the record is concerned, however, the attitude which characterized our arrival was apparently one of hope for economic gain laced with diffidence. In fact, going back a bit further, we can note that our conception was so subtle as to be virtually immaculate. We find that at the annual meeting of the Kansas Medical Society on April 4, 1867:

> "On motion of Dr. Wever, it was—
> *"Resolved,* That we will endorse and aid any reputable medical journal which may be started in the State."

Whether Dr. Wever would consider the current product reputable or not, we do not know, but surely the aid we have received over the years must constitute some sort of endorsement.

At any rate, the Society, after planting this seed (as the sex education books say) continued its annual prenatal visits, which included no little preoccupation with selecting the lowest bidder for publication of the *Transactions.* Impending labor is indicated by the comments occurring with increasing frequency in the nineties (which were elsewhere reported to be gay) to the effect that converting to monthly publication would provide the benefit of income from advertising. Thus the oxytocic which precipitated our birth was more the lure of lucre than the desire to bring our medical manna to the starving profession.

In all honesty, then, we must note that our arrival, mewling and spewing, in 1901, is related to the fact that Kansans at the turn of the century were being dosed with liberal quantities of Cortexalin, Fellows' Syrup of Hypophosphites, and California Fig Syrup since their medical caretakers were being urged to make use of same in their very own journal. (It's much too late to do anything about it but perhaps this answers William Allen White's question about the matter with Kansas.)

One might expect that the first issue in June 1901, would have included some self-congratulatory comment or recognition by the Publication Committee (the 1901 version of the Editorial Board), but it apparently failed to appreciate the significance of the event. As a matter of fact, the first year's issues consisted simply of a serialized version of the *Transactions* of the 35th Annual Session of the Kansas Medical Society—at least as far as they would go which, in this case, was ten months. The eleventh issue, therefore, consisted of articles lifted from various other journals (the *British Medical Journal,* for example, since there is no reason not to go first class as long as you are going to steal something). By the time the twelfth issue came out, the Society had had another meeting and we could start over again on the *Transactions.*

The expectant parents procured the midwifely services of the A. D. Bauer Printing Company to deliver them of this changeling on terms of 500 copies of 32 pages each, diapered and ready for mailing at $32 a month. Since this comes to $384 a year against the $275 it had cost to print the *Transactions* in one volume, the expectation that the infant would bring in at least $109 a year in advertising measures the parents' confidence in their offspring. Over the years, there have been times when it appeared this confidence was well placed, but in total, the child has been a greater source of outgo than income, thus exemplifying the disillusionment which characterizes parenthood.

The neonate's first year was not without some attacks of colic due to an allergy to the postal service (which it has not outgrown but has learned to live with). It seems that the tradition for painless (?) payment for subscription to the JOURNAL by taking it out of dues

began at birth. The post office, however, was not impressed that this truly constituted subscription, and imposed first class charges of one cent each for mailing. The recipient was supposed to submit a specific request for the publication (thereby meeting the bureaucratic definition of subscription) before the Society could get the benefits of second class postage of one cent a pound. Consequently, S. E. Sheldon, M.D., who, as Chairman of the Publication Committee, became the first editor, spent less time during this first year imposing his literary endeavors on the readership than pleading with them to forward requests for the JOURNAL whereby he could convince the postmaster that they were really subscribing.

Our survival was assured, however, when the farsighted delegates to the 36th annual session forthrightly and courageously authorized the withholding of one dollar for the JOURNAL from each member's dues, thereby demonstrating the same fine spirit and professional dedication displayed by present-day delegates. (We can be shameless when it comes to courting support.) It is worthy of note, however, that this dollar was extracted from a total dues of three dollars, and any movement to return to a proportionate distribution today will meet with the full cooperation of the Editorial Board.

But apart from being an oblique message of thanks from the Editorial Board to the Society, this issue offers us the opportunity to present a proposal which has taken form as we have gathered material for this issue. We refer to the recording of a significant but neglected area of medical lore, the personal anecdotes or vignettes, which pass on a special view of the personalities and times which have created the substance of medical practice as much as the formal articles. The latter, more often than not (and by some intent), are sterile of any personal touch since it is considered unseemly to depart from the academic, objective attitude in the presentation lest one's critics seize on the departure for purposes of questioning the validity of the work. Besides, with multiple authors on most of the manuscripts these days, who is to get his favorite story worked into the paper?

We are not seeking to change the accepted format of the scientific articles of the day but think more effort should be made to record for posterity some of the legends and anecdotes (most of them apocryphal, to be sure) which would give some personality to the age and provide our descendants with a view of the times as important, though differently so, as the great volume of formal literature which is destined to be buried in the archives once it has served the departmental or personal service of publication. In this issue, the comments on Dr. Munn (and others) by "Hub" Hogeboom, many of the references by John Porter, and David Francisco provide a human touch. The profession has produced many such stories which have survived in such papers but we propose going a step further: actively soliciting them from our members and maintaining a file of them. Obviously, this invites a departure from the objective discipline and accuracy presumably characteristic of a scientific journal, but we accept this with the comment that at least two of our personal antecedents were accorded that highest accolade applied to the raconteur—they never let the facts interfere with a good story. It seems even possible that we might acquire enough such material to permit publication of some of it as a regular feature in the JOURNAL—after, we hasten to add, appropriate screening for possible libel suits or horsewhipping of the Editor.

This idea may well appeal to the older members more than the young not only because they are more involved in the history itself but enjoy some security from reprisal, since their subjects may well have passed from the scene. Let it be noted that we, in extending the invitation, offer no guarantee of publication and certainly no remuneration but plan, at least, to have the file ready to receive such items, and in some manner our successors may find something of interest for future anniversary issues. So, if you have a favorite story, an episode, an anecdote, send it along for inclusion in the file. Even if it never sees the light of publication, we in the JOURNAL office will enjoy it.—*D.E.G.*

The New York State Journal of Medicine is having difficulty with the Postoffice Department and is requesting its members to send in subscriptions. Unless they succeed better than we have, they will have to pay the postage at the rate of one cent each.

Editorial Note, February 1902

200 Years of American Medicine

American Medicine in 1776

Medical care in the American colonies in 1776 was a crude and primitive affair compared to today's highly developed health care system. In fact, for many Americans, there just weren't any doctors at all, and home medicine was the only answer. Most of the nation lived in remote rural areas. The crisis was over—the patient either survived or died—before the doctor could arrive on horseback.

And if you did find a doctor, his knowledge and his tools and medicines were scant indeed compared to today's sophisticated and scientific medicine. The doctor likely had never attended medical school and had no license to practice medicine. He didn't really know what caused most diseases and he didn't really know how to treat them. The doctor's answer to disease in those days was likely to be to open a vein in the wrist and draw off a pint or two of blood . . . or a dose with a very strong emetic to induce vomiting . . . or a strong purgative to cleanse the bowels. Often the treatment did more harm than good.

The doctor didn't know about germs and how to prevent infection. Pasteur and Lister were still far in the future. He did know that inoculation against smallpox gave protection, and the Continental Army was well protected against this scourge. The doctor had—sometimes—a few items to relieve pain—alcohol, opium, laudanum. He had no penicillin, no insulin, no vaccines, no anesthetics.

There were about as many doctors for the population 200 years ago as there are today—one to 600. At the time of the Revolution there were around 3,500 fairly legitimate medical practitioners in the 13 colonies. Less than 400 of these possessed medical degrees. Most had been trained under the apprentice system. A very few were products of European medical schools, or one of the two new American schools.

In colonial times, the aspiring physician apprenticed himself to an older doctor, served several years, and received from his mentor a certificate certifying his competence to practice medicine. Surgery consisted largely of amputations of injured arms and legs. Many of the patients died of infection and loss of blood. The doctor had to get by without most of today's common medical tools—clinical thermometer, stethoscope, hypodermic syringe.

Colonial physicians used a variety of drugs when they could get them, such as "Jesuit's Bark" (quinine) for fevers, and they drew heavily on the native plants and shrubs. Knowledge of therapeutic plants, gained through generations of experimentation, was considerable, and could aid in relieving pain and in curing some diseases.

Fevers, smallpox, and dysentery caused much of the illness. Life expectancy was short and the degenerative diseases of advancing years were a minor health problem for most Americans in 1776. Dirt and poorly cooked food and drink made dysentery a highly common health problem in the Continental Army. Influenza and pneumonia were common, thriving on poor ventilation, crowded conditions, dirt, and poor diet.

Despite their handicaps, American doctors did the best they could, and their very presence was a great help to many sick individuals. The doctor was a prominent man in his community. Several doctors were among the signers of the Declaration of Independence: Josiah Bartlett of New Hampshire; Lyman Hall of Georgia; Benjamin Rush of Pennsylvania; Matthew Thornton of New Hampshire, and Oliver Wolcott of Connecticut. Others were members of the Continental or United States Congresses.

Anesthesia for Surgery—an American Discovery

A unique and highly important American contribution to medicine was the first use of ether as an anesthetic for surgery.

Prior to the 1840s, surgery and dentistry were grim affairs. There was no dependable means of relieving pain during the operation. A stiff drink of strong alcoholic beverage was the surgeon's major anesthetic, and this did not actually prevent pain. The surgeon had to learn to work very fast to get it over with before the patient succumbed to shock or loss of blood, while his patient was strapped to the operating table. Surgery was a last resort, to be avoided if at all possible.

A young Georgia physician, Crawford W. Long, of Jefferson, was the first man to use ether for surgical anesthesia other than a dental procedure. On March 30, 1842, Dr. Long used ether to remove two small tumors

from the neck of a friend. The operation was successful and the patient suffered no pain.

Other pioneering work was underway in New England, and a report appeared in a Boston journal in 1846. The published report was promptly attacked as "quackery" and a lively exchange in the medical literature ensued for a time, until the value of ether as an anesthetic was proved to the satisfaction of the medical community of the day.

One of the New Englanders who did the first experiments with ether, Dr. W. T. G. Morton, gave up his dental practice to devote full time to anesthesia, and is most likely the first professional anesthetist in American medicine.

From America the news spread to Europe, in 1846, and the European surgeons were quick to take up the use of ether. Dr. Long early in his work began using ether to relieve the pains of childbirth. This precipitated a moral argument from clergymen and many physicians that childbirth pains were something that should be endured, but this eventually passed.

Oddly, ether first came to the attention of medical men through its use by sideshow entertainers. These men traveled about the country giving demonstrations by having men in the audience inhale ether and become pleasantly drunk. Ether parties became the vogue among young persons, who inhaled the substance at parties. Probably its first use as an anesthetic was in January 1842, for a tooth extraction in Rochester, New York, when a young chemist who had been to some of the parties administered ether to a young woman dental patient.

It was after a public demonstration that Dr. Long got the idea of administering ether to a patient to operate without pain. Dr. Long had witnessed ether parties while a medical student at the University of Pennsylvania.

It was Dr. Oliver Wendell Holmes who suggested the name "anesthesia" for the pain-free condition and "anesthetic" for the substance that induced anesthesia.

At the founding meeting of the American Medical Association in Philadelphia in 1848, the subject of anesthesia was prominent on the scientific program. Physicians from throughout the United States learned of the discovery at the convention, and use of ether spread rapidly thereafter. Some surgeons still were reluctant to use ether in their operations, but the Committee on Surgery of that first AMA meeting declared that the benefits offset the risk.

Victory Over Yellow Fever

Within the lifetime of some Americans still living today, yellow fever was a feared and dreaded disease that swept American cities from time to time, striking tens of thousands and taking many lives.

Yellow fever likely was brought to the Americas in the 16th century from the Old World. In America it became a feared scourge and New World doctors were the first to study the disease.

Dr. John Crawford, of Baltimore, is credited by medical historians as first determining that mosquitoes were the source of malaria, yellow fever, and other diseases. Dr. Crawford clashed vigorously with the famed Dr. Benjamin Rush, a signer of the Declaration of Independence, who believed that yellow fever was caused by something foul in the air.

Dr. Carlos Juan Finley, of Cuba, in experiments in the 1880s, tested the theory that the Aedes Aegypti mosquito was the transmitter of yellow fever. Taking off from Dr. Finlay's inconclusive work, a US Army Medical team led by Dr. Walter Reed, in 1901, showed once and for all that the mosquito was the culprit in a medical experiment that was the theme of a famous Broadway play of a generation ago, "Yellow Jack."

It fell to William Crawford Gorgas, of the Army Medical Corps, to demonstrate that he could stop yellow fever in Havana by eradication of the mosquito from the swamps and waterways of the Cuban capital. Gen. Gorgas repeated his success in Panama, making possible the digging of the Panama Canal by laborers freed from the hazard of the serious disease.

Gen. Gorgas later headed the Rockefeller Foundation Yellow Fever Commission that wiped out the disease in many Latin American countries and later worked on the problem in Africa. And in the late 1930s, a researcher at the Rockefeller Foundation laboratories perfected a vaccine against yellow fever.

The last epidemic in the United States was in New Orleans in 1905, causing more than 400 deaths and almost 3,500 cases. New Orleans had neglected to carry out a mosquito eradication campaign, but after the epidemic moved to eliminate the breeding areas.

Victory Over Pellagra

For several centuries pellagra was a serious disease that baffled doctors. Physicians called it the disease of the Four Ds—dermatitis, diarrhea, dementia, and finally death.

In the early years of the 20th century, pellagra was found in more than half of the states of the United States and was killing thousands of persons each year in the South. Mental hospitals were filled with emotionally disturbed individuals whose problem was pellagra. The story of how medical science finally traced the cause of pellagra—a deficiency of niacin, or nicotinic acid, in the vitamin B complex—is a medical detective story that has excited historians for years.

The Sherlock Holmes of pellagra is a medical officer of the U.S. Public Health Service, Dr. Joseph Goldberger. Dr. Goldberger is now honored by an award presented each year in his name for outstanding work in nutrition.

Dr. Goldberger already had made a distinguished record in infectious disease research when, in 1914, he received the assignment to tackle pellagra. Already it was known that individuals who ate a diet of largely corn were most likely to succumb, but there were many theories and much difference of opinion among medical scientists.

Dr. Goldberger began his research with studies in a mental hospital in Georgia, and an orphanage in Mississippi. He noted that while the people in these institutions got pellagra, the attendants caring for them did not. He thus concluded it was not an infectious disease, and began to explore dietary causes.

Pellagra developed in people who had biscuits, hominy grits, corn mush, syrup, molasses, gravy, and sowbelly (fat pork) in their diet, but no milk, eggs, butter, or lean meat. He learned early in his work that some simple diet changes could clear up the disease in the institutions. To further test the diet theory, he conducted an experiment in a prison in which volunteers subsisted for six months on the traditional diet of the poor Southerners. They developed the disease, but Dr. Goldberger still faced disbelief among his colleagues, and more years elapsed before the theory was accepted.

The remainder of his life was spent in trying to track down exactly which missing element in the diet caused the disease. Slowly, minerals and most vitamins were excluded, and shortly before his death in 1928, he concluded that the essential probably was in the vitamin B complex. Although Dr. Goldberger did not live long enough to determine finally that niacin was the missing element, his research was such that doctors knew how to cure pellagra by diet even before the element was finally pinpointed.

Pellagra still occurs, but in special circumstances, such as alcoholics, elderly people living alone, and others who do not eat a proper diet. Meats, whole grain cereals, and peanuts will prevent it. Very few individuals die of pellagra today. Once diagnosed, it can be cured by nicotinic acid, or niacin, and a well-rounded diet.

Diphtheria Fades

Diphtheria is almost gone in North America today. Immunization has virtually wiped out the disease that in the 19th and early 20th centuries was the dread killer of thousands of young children each year.

Diphtheria is an acute, contagious, and infectious disease caused by the diphtheria bacillus. It affects the throat primarily, but spreads through the body. The illness is severe and, in the pre-immunization years, was often fatal. Today, there are less than 300 cases a year in the United States, almost all in unprotected children. And modern treatment techniques save most of those few remaining children who contract the disease.

The first description of what was likely diphtheria is found in writings shortly after the birth of Christ, but the first full description appeared in England in the 18th century.

The early laboratory work that pointed the way to treatment and prevention of the disease was done in Europe. The bacillus was first isolated in Germany in the 1880s, and a German discovered the diphtheria antitoxin in the 1890s. American doctors promptly picked up the discovery and began producing the antitoxin in quantity and protecting children who had been exposed. In fact, American physicians in the big cities pointed the way for the Europeans. The diphtheria chart death line turns down abruptly in New York about 1929-30. In England and Wales the turndown came in 1941-42.

The antitoxin was an important discovery and saved

many lives, but the real possibility of prevention came in 1923, when a toxoid that produced longer lasting immunity with fewer adverse reactions became available. This followed by a few years the important development of the Schick test, a skin reaction observation that determined individual immunity. An important adjunct to solving the problem of diphtheria in children was the life of physicians and nurses who cared for the young patients in the early epidemics. Dr. William Osler wrote that "few diseases have proved more fatal to physicians and nurses in the past."

In 150 cities of the United States before the general use of antitoxin, the mortality rate in 183,000 cases was 38.4 per cent. But after antitoxin, the death rate dropped to 2.3 per 100,000. Diphtheria cases continued to decline through the 1940s, -50s and -60s. In the four years of 1970-74, the median was 224 cases a year with virtually no deaths.

However, control of diphtheria depends heavily on the nation keeping up its immunization program. This was illustrated in 1970 with a flareup in a city in Texas after slackening of the toxoid immunization.

An early American pioneer in making and using the diphtheria antitoxin was William H. Park, M.D., of the New York City Health Department. Herman Biggs, M.D., of the same office, was in Europe in 1894, when the first public announcement was made of the development of the antitoxin. Dr. Biggs at once advised Dr. Park, who promptly began work to make it in New York. There were at the outset no funds. *The New York Herald* made a public appeal, which brought in $7,000 to get the program started. The antitoxin was first used in the United States in 1895, in a serious outbreak of the disease in the Mount Vernon Branch of the New York City Infant Asylum. It stopped the epidemic.

The antitoxin was used for a quarter of a century, until it was replaced by the much more effective toxoid for immunization.

In addition to the preventive products, modern antibiotics are effective in treating diphtheria, and are an important factor in reducing the death rates for those few children who do become ill.

One medical authority estimates that in Britain and the United States alone about 20,000 children survive each year who, in the absence of immunization, would have died from diphtheria.

The Flexner Report

The education and training of medical doctors in the United States is widely recognized as equal or superior to physician training anywhere else in the world. But this was not always so.

Prior to 1910, the training of doctors in America was often poor and haphazard, and virtually unregulated. There were some very good schools, but there also were many poor ones: schools that operated on budgets of less than $10,000 a year; that admitted students without even high school preparation; that were formed primarily to make money for the proprietors.

In 1910 came the famed Flexner Report. Actually, it was Bulletin Number Four of the Carnegie Foundation for the Advancement of Teaching, prepared by a former school teacher turned educational philosopher, Abraham Flexner. And it revolutionized medical education.

The report was developed because the American Medical Association's Council on Medical Education requested the Carnegie Foundation to undertake an objective study of American medical education. Much of the spadework had already been done by the AMA staff under the direction of the Council. Flexner began with this background information which pointed out deficiencies in many medical schools, and he subsequently prepared a report that became the basis for extensive reform.

Immediately on publication of the Flexner Report, the AMA Council on Medical Education instituted a formal process of survey and accreditation, in chronological rotation, of all U. S. medical schools. Some of the poorest schools closed rather than face evaluation by impartial outsiders. By 1928, the 155 schools—many of them mere diploma mills—had been reduced to 76 that met the basic requirements for proper teaching. Through the intervening years, the number of schools has gradually built up to today's 115, all carefully structured to meet rigid accreditation requirements. And more are on the boards.

In 1910, only two medical schools required a college degree for entrance, most required no college experience at all, and many failed to require even a high school diploma. Students entered medical school grossly deficient in basic science and math. Flexner's proposal that two years of college science training be required for entrance soon became universally accepted. Today, few enter medical school without an undergraduate degree. Flexner also recommended the study program for a medical course of four years that is now widely fol-

lowed: two years of basic training in life sciences and two more years of training in actually treating patients—the clinical years. And today advanced training beyond the four-year course is accepted everywhere.

It would be difficult to overestimate the impact of the Flexner Report of 1910, one medical historian has written. By exposing the deplorable truth about commercially dominated medical schools, his report, together with the financial support given by the then newly founded Rockefeller and Carnegie Foundations to medical colleges, inspired the reformation that produced an entirely new age of quality in American medicine.

Abraham Flexner served as the catalyst to bring to fruition the objective sought since its founding in 1847 by the American Medical Association—improvement of medical school standards, methods, and facilities.

Flexner continued his studies of medical education in Europe, and later served as the founding head of the Institute for Advanced Study at Princeton. He died in 1959, at the age of 93.

A History of Pharmacology

(Continued from page 343)

to build a separate building north of 39th Street. This grant strengthened training in clinical pharmacology and expanded the opportunities for graduate training in the department.

Although graduate courses are listed in the department as far back as 1913, when Dr. Matthews was chairman, there was no record of a degree candidate in the department until 1955. It is of interest that Dr. James Rice did research under Dr. Isenberger, while an instructor at the Metropolitan Junior College, Kansas City, Missouri. Dr. Rice went to Tulane University, and later became chairman of the department of pharmacology at the University of Mississippi. The first graduate student in the department was Robert Volle, who came to the department as Dr. Peters' graduate student. A series of graduate students followed: Carroll Smith (1961), Hugh Burford (1962), Ruben Bunag (1962), Jerry Smith (1964), Robert G. Pendleton (1966), Robert E. Nichols (1966), James H. Pirch (1966). With the increase in staff throughout the 1960s, more graduate students were accepted and, according to a progress report, 19 graduate students were enrolled in the department in 1970.

More recently, the department has been recognized internationally for innovative teaching in pharmacology. The teaching method uses the computer as a mechanism for offering course material, as well as in managing the student taking the course. The teaching method, CATS (Computer Assisted Teaching Systems), initiated in the department by Drs. Doull and Norton, has been incorporated into the curricula of about 17 schools at the present time. A conference for CATS users was held at the Medical Center in November 1974, in order to discuss problems and improved utilization of the teaching method.

Acknowledgment

Bea Jackson, Department of the History of Medicine, assisted in gathering historical material. Ann Nelson provided library research. John M. Nugent, University Archivist, and his staff made early correspondence available to the authors.

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Obituaries

DAN L. BERGER, M.D.

Dr. Dan L. Berger, 58, of Shawnee Mission, died May 4, 1976, in Salina. He was born on February 8, 1918, in Kansas City, Missouri.

Dr. Berger was graduated from the University of Texas Southwestern Medical School in 1948. He practiced medicine in Shawnee Mission since 1954. Dr. Berger died while attending the annual session of the Kansas Medical Society in Salina.

Survivors include his wife.

CLAUDE D. BOHAM, M.D.

Dr. Claude D. Bonham died May 9, 1976, in Topeka at the age of 75. He was born in King City, Missouri, on November 12, 1900.

Dr. Bonham was graduated from the University of Colorado School of Medicine in 1927. He practiced medicine in Colorado from 1928 until 1969, when he moved to Topeka to be a medical advisor for Blue Cross-Blue Shield of Kansas.

Surviving Dr. Bonham are his wife and son. Memorial contributions may be made to the American Cancer Society.

ARNOLD G. ISAAC, M.D.

Dr. Arnold G. Isaac, 82, of Newton, died April 9, 1976. He was born in Lehigh on June 19, 1893.

Dr. Isaac was graduated from Rush Medical College of Chicago in 1922. He was one of the pioneer urologists in Kansas, and practiced medicine in Newton from 1927.

Dr. Isaac is survived by his wife and two sons.

PAUL J. O'CONNELL, M.D.

Dr. Paul J. O'Connell died April 30, 1976 in Kansas City, Missouri, at the age of 88. He was born in Miami County on August 25, 1887.

Dr. O'Connell was graduated from the University Medical College of Kansas City, Missouri, in 1910. Dr. O'Connell was the organizer of the medical staff of St. Mary's Hospital in Kansas City, Missouri, and was associated with the hospital since its beginning in 1909.

Survivors include his wife, six sons, and three daughters. Memorial contributions may be made to Holy Name Catholic Church or St. Mary's Hospital Building Fund in Kansas City, Missouri.

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Woman's Auxiliary

Good Communications Are the Beginning of Understanding

Dear Friends:

Barton County Auxiliary members will be hostesses for the first summer board meeting and workshop on July 27 and 28, at the Highland Manor Motel in Great Bend. Board members, including county presidents and presidents-elect are expected to attend, and any interested county chairmen or members are also invited and encouraged to clip their registration forms from the Kansas *Doctor's Wife,* and "Learn, Share, Play, and Sun in Western Kansas." Please encourage your wife's attendance, because it is extremely difficult for me to communicate with names and addresses, especially if they fail to communicate with me.

Tuesday afternoon, a Board of Directors meeting will open the two-day session, and during the meeting short presentations on Auxiliary projects and programs will also be introduced by chairmen or selected individuals on the memorial loan fund, learning disabilities, publications, KU liaison committee, new health careers, long range planning for the Kansas Auxiliary, Gems, safety, WASAMA goals, and physical fitness for physicians and spouses. This will be valuable information for program chairmen for the 1976-1977 year.

Following the afternoon program, guests will be invited to tour the Fuller Brush Plant, swim, or enjoy Great Bend stores. A Hawaiian luau and Mrs. Everett Brown's superb musical program will close the day's festivities. Perhaps, some will enjoy a late swim.

Early Wednesday morning, guests will enjoy a continental breakfast and Mrs. Chester Lessenden, North Central Regional Vice-President, will talk on "Leadership for Women Today." During the morning session a mini-workshop on membership, health education, international health, services to the aging, legislation, community health, genetics, and AMA-ERF will be conducted by Mrs. Wm. Crouch and Mrs. Kermit Wedel. Additional short discussions on Auxiliary participation in programs on professional liability, the impaired physician, communications, and Operation Helpmate will also be included.

Mr. Gary Caruthers, the Kansas Medical Society liaison representative, will discuss the functions of the Kansas Medical Society staff and assistance available to Auxiliary members. Dr. Emerson Yoder will present an up-to-date review of current and future state legislation affecting medicine. Following a salad buffet luncheon, Dr. Robert B. Kugel, the new executive vice-chancellor of the KU Medical School, will discuss "Current Trends in Medicine." This will conclude the conference.

Two important points will be stressed during the board meeting and workshops: improvement of communications between medicine and the local communities, and the encouragement of community service participation by the Auxiliary membership.

This year we will be stressing increased membership, and we seek your wife's participation in our Auxiliary functions. However, if she is not interested in becoming an active member, we do ask her to, please, give us her moral and financial support.

Please ask your wife, "Have you mailed your reservations to Great Bend?"

Sincerely,
Jean Cavanaugh
President,
Woman's Auxiliary to the
Kansas Medical Society

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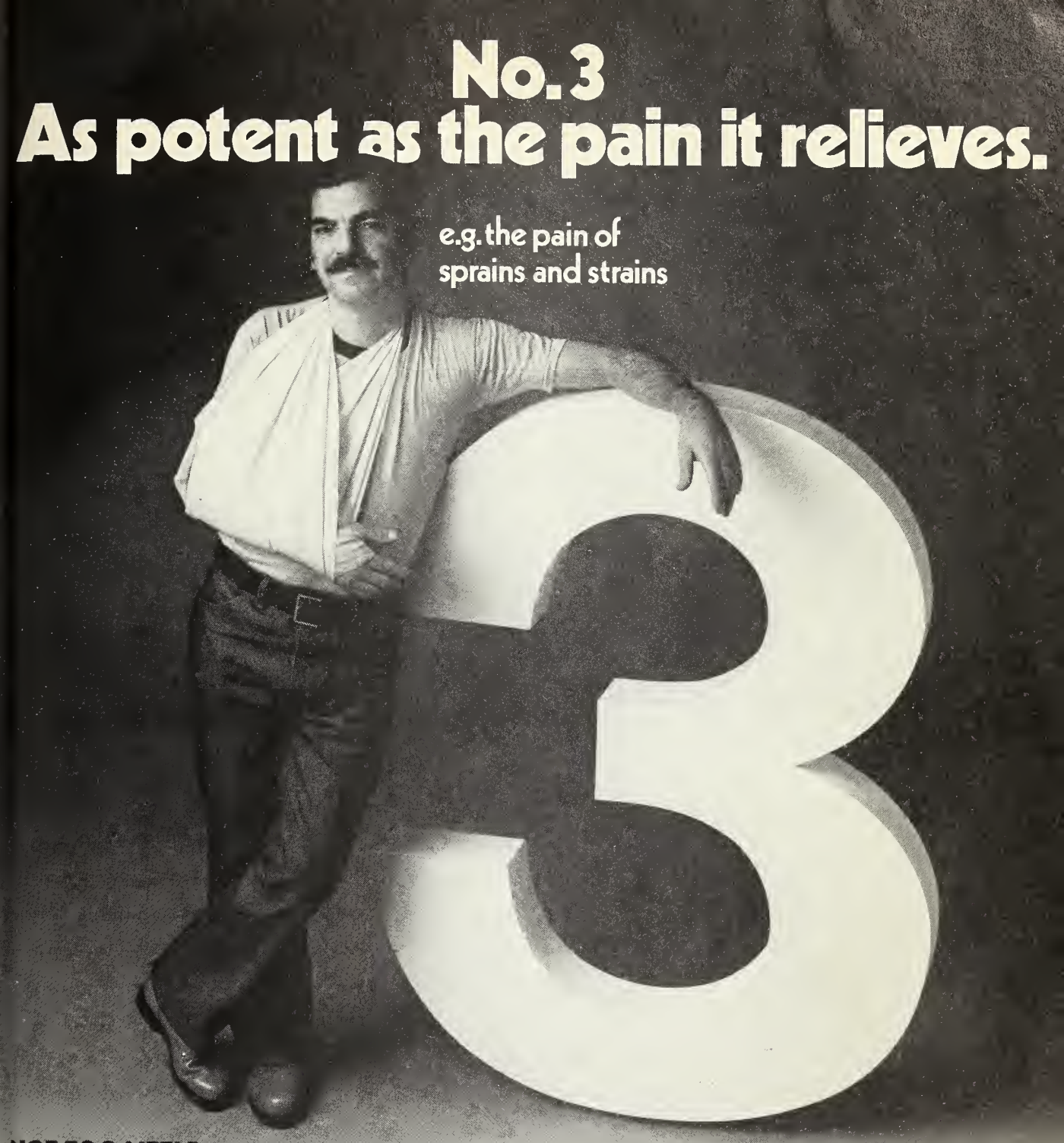
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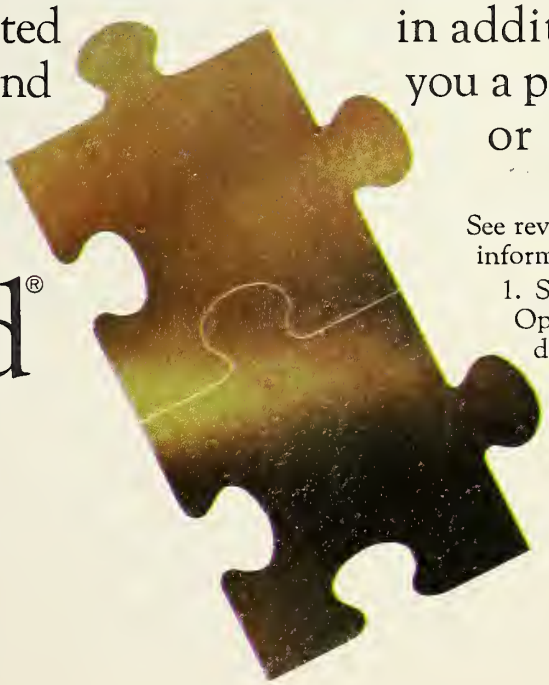
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1. Stock, J. M., Surks, M. I., and Oppenheimer, J. H. Replacement dosage of L-thyroxine in hypothyroidism. A re-evaluation. New Engl. J. Med. 290:529-33, 1974.

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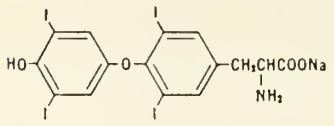
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Description: SYNTHROID (sodium levothyroxine) **Tablets** and SYNTHROID **Injection** contain synthetic crystalline sodium levothyroxine (L-thyroxine) L-thyroxine is the principal hormone secreted by the normal thyroid gland



Sodium Levothyroxine

Actions: SYNTHROID (sodium levothyroxine) **Tablets,** taken orally, provide hormone that is readily absorbed from the gastrointestinal tract SYNTHROID **Injection** is effective by any parenteral route Following absorption, the synthetic L-thyroxine provided by SYNTHROID products cannot be distinguished from L-thyroxine that is endogenously secreted. Each is bound to the same serum proteins and each exhibits a six to seven day circulating half-life in the euthyroid individual

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Indications: SYNTHROID (sodium levothyroxine) products serve as specific replacement therapy for reduced or absent thyroid function of any etiology SYNTHROID **Injection** can be used intravenously whenever a rapid onset of effect is critical, and either intravenously or intramuscularly in hypothyroid patients whenever the oral route is precluded for long periods of time

Contraindications: There are no absolute contraindications to SYNTHROID (sodium levothyroxine) therapy Relative contraindications include acute myocardial infarction, uncorrected adrenal insufficiency and thyrotoxicosis. (See WARNINGS)

Warnings: Patients with cardiovascular diseases warrant particularly close attention during the restoration of normal thyroid function by any thyroid drug In such cases, low initial dosage increased slowly by small increments is indicated Occasionally, the cardiovascular capacity of the patient is so compromised that the metabolic demands of the normal thyroid state cannot be met. Clinical judgment will then dictate either a less-than-complete restoration of thyroid status or reduction in thyroid dosage.

Endocrine disorders such as diabetes mellitus, adrenal insufficiency (Addison's disease), hypopituitarism and diabetes insipidus are characterized by signs and symptoms which may be diminished in severity or obscured by hypothyroidism. SYNTHROID (sodium levothyroxine) therapy for such patients may aggravate the intensity of previously obscured symptoms and require appropriate adjustment of therapeutic measures directed at these concomitant disorders

Thyroid replacement may potentiate the effects of anticoagulants. Patients on anticoagulant therapy should have frequent prothrombin determinations when instituting thyroid replacement to gauge the need to reduce anticoagulant dosage

Precautions: Overdosage with any thyroid drug may produce the signs and symptoms of thyrotoxicosis, but resistance to such factitious thyrotoxicosis is the general rule With SYNTHROID (sodium levothyroxine) **Tablets,** the relatively slow onset of action minimizes the risk of overdose but close observation in the weeks following institution of a dosage regimen is advised Treatment of thyroid hyperactivity induced by oral medication is confined to interruption of therapy for a week, followed by reinstitution of daily therapy at an appropriately reduced dosage.

Adverse reactions: Adverse reactions are due to overdose and are those of induced hyperthyroidism

Dosage and administration: For most adults, a final dosage of 100 mcg (0.1 mg) to 200 mcg (0.2 mg) of SYNTHROID (sodium levothyroxine) **Tablets** daily will restore normal thyroid function and only occasionally will patients require larger doses. Failure to respond adequately to a daily oral intake of 400 mcg (0.4 mg) or more is rare and should prompt reconsideration of the diagnosis of hypothyroidism, special investigation of the patient in terms of malabsorption of L-thyroxine from the gastrointestinal tract or poor adherence to therapy

The concomitant appearance of other diseases, especially cardiovascular diseases, usually dictates a replacement regimen with initial doses smaller than 100 mcg/day (0 1 mg)

In otherwise healthy adults with relatively recent onset of hypothyroidism, full replacement dose of 150 mcg (0.15 mg) or 200 mcg (0.2 mg) has been instituted immediately without untoward effect and with good therapeutic response General experience, however, favors a more cautious approach in view of the possible presence of subclinical disorders of the cardiovascular system or endocrinopathies.

The age and general physical condition of the patient as well as the severity and duration of hypothyroid symptoms determine the starting dosage and the rate of incremental dosage increase leading to a final maintenance dosage. In the elderly patient with long standing disease, evidence of myxedematous infiltration and symptomatic, functional or electrocardiographic evidence of cardiovascular dysfunction, the starting dose may be as little as 25 mcg (0.025 mg) per day Further incremental increases of 25 mcg (0.025 mg) per day may be instituted at three to four week intervals depending on patient response. Conversely, otherwise healthy adults may be started at higher daily dosage and raised to the full replacement dosage in two to three weeks. Clearly it is the physician's judgment of the severity of the disease and close observation of patient response which determines the rate of dosage titration.

Laboratory tests to monitor thyroid replacement therapy are of limited value Although measurement of normal blood levels of thyroxine in patients on replacement regimens frequently coincides with the clinical impression of normal thyroid status, higher than normal levels on oral replacement of levothyroxine occasionally occur and should not be considered evidence of overdosage per se.

In all cases, clinical impression of the well-being of the patient takes precedence over laboratory determination in determining the appropriate individual dosage.

In infants and children, there is a great urgency to achieve full thyroid replacement because of the critical importance of thyroid hormone in sustaining growth and maturation. Despite the smaller body size, the dosage needed to sustain a full rate of growth, development and general thriving is higher in the child than in the adult, as much as 300 mcg (0.3 mg) to 400 mcg (0 4 mg) per day

In myxedema coma or stupor, without concomitant severe heart disease, 200 to 500 mcg of SYNTHROID **Injection** may be administered intravenously as a solution containing 100 mcg/ml. Although the patient may show evidence of increased responsivity within six to eight hours, full therapeutic effect may not be evident until the following day An additional 100 to 300 mcg or more may be given on the second day if evidence of significant and progressive improvement has not occurred Like the oral dosage form, SYNTHROID **Injection** produces a predictable increase in the circulating level of hormone with a long half-time. This usually precludes the need for multiple injections but continued daily administration of lesser amounts intravenously should be maintained until the patient is fully capable of accepting a daily oral dose.

In the presence of concomitant heart disease, the sudden administration of such large doses of L-thyroxine intravenously is clearly not without its cardiovascular risks. Under such circumstances, intravenous therapy should not be undertaken without weighing the alternative risks of the myxedema coma and the cardiovascular disease. Clinical judgment in this situation may dictate smaller intravenous doses of levothyroxine

SYNTHROID **Injection** by intravenous or intramuscular routes can be substituted for the oral dosage form when ingestion of SYNTHROID **Tablets** is precluded for long periods of time.

How Supplied: SYNTHROID (sodium levothyroxine) **Tablets** are supplied as scored, color-coded compressed tablets in 6 concentrations 25 mcg (0.025 mg)—orange . . 50 mcg (0.05 mg)—white . . 100 mcg (0 1 mg)—yellow . . 150 mcg (0.15 mg)—blue 200 mcg (0.2 mg)—pink . . 300 mcg (0.3 mg)—green.

SYNTHROID (sodium levothyroxine) for **Injection** is supplied in 10 ml vials containing 500 mcg of lyophilized active ingredient and 10 mg of Mannitol, U.S.P. A separate 5 ml vial containing Sodium Chloride Injection, U.S.P. is provided as a diluent

Directions for reconstitution: Reconstitute the lyophilized sodium levothyroxine by aseptically adding 5 ml of the Sodium Chloride Injection, U.S.P. to the vial. Shake vial to insure complete mixing. **Use immediately** after reconstitution. Discard any unused portion.

U S Pat. 2,889,363

January 1975

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Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido —all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.;* severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

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Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in freque and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdra may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous gestion of alcohol and other CNS depre sants. Withdrawal symptoms (similar t those with barbiturates and alcohol) ha occurred following abrupt discontinua (convulsions, tremor, abdominal and m cle cramps, vomiting and sweating). K addiction-prone individuals under care

respond to one

According to her major
ıptoms, she is a psychoneu-
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y sound like depression.
's is because her problem,
ıough primarily one of ex-
sive anxiety, is often accom-
ied by depressive symptom-
logy. Valium (diazepam)
provide relief for both—as
excessive anxiety is re-
ed, the depressive symp-
ıs associated with it are also
n relieved.

There are other advan-
es in using Valium for the
nagement of psychoneu-
c anxiety with secondary
ressive symptoms: the
chotherapeutic effect of
ium is pronounced and
id. This means that im-
vement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

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in psychoneurotic
anxiety states
with associated
depressive symptoms

eillance because of their predisposi-
to habituation and dependence. In
nancy, lactation or women of child-
ing age, weigh potential benefit
nst possible hazard.

autions: If combined with other psy-
ropics or anticonvulsants, consider
fully pharmacology of agents em-
ed; drugs such as phenothiazines,
otics, barbiturates, MAO inhibitors
other antidepressants may potentiate
ction. Usual precautions indicated in
ents severely depressed, or with latent
ression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVII, Number 8—August, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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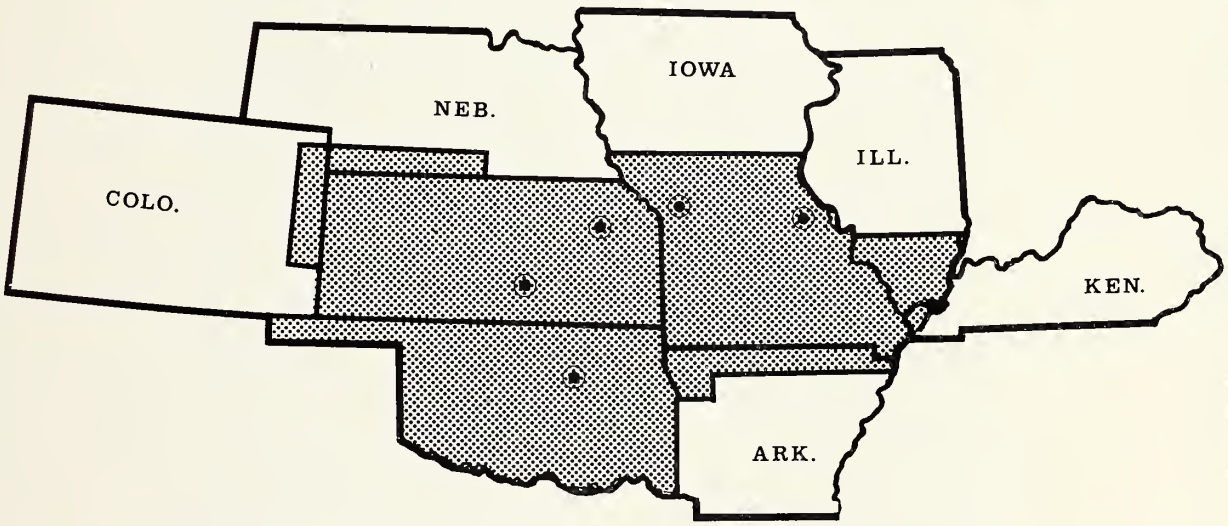
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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton Missouri.

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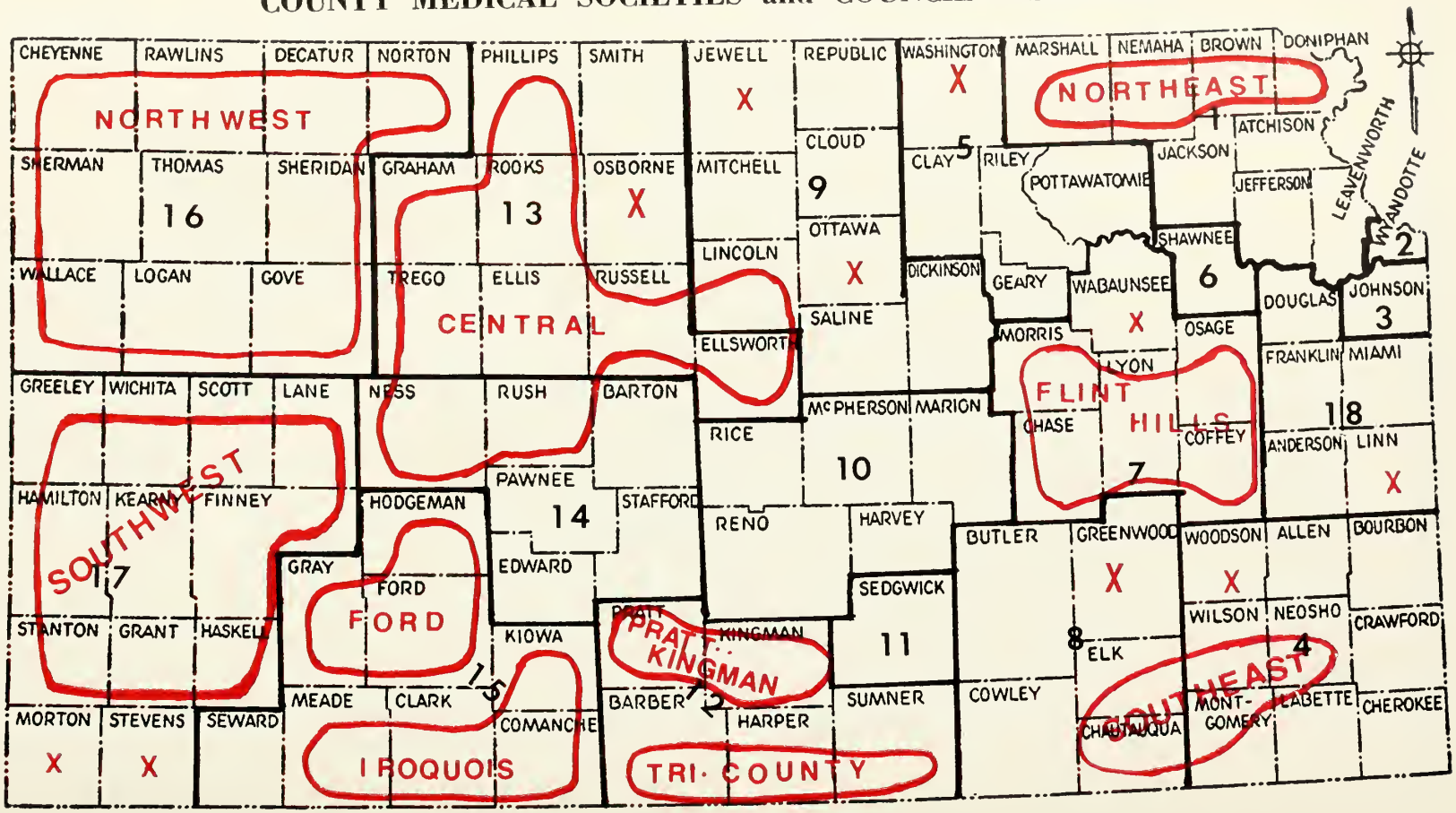
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Stafford—4TH FRIDAY—R. L. Ward, Stafford, President; C. Everett Brown, Stafford, Secretary; W. E. McAllaster, Great Bend, Councilor.

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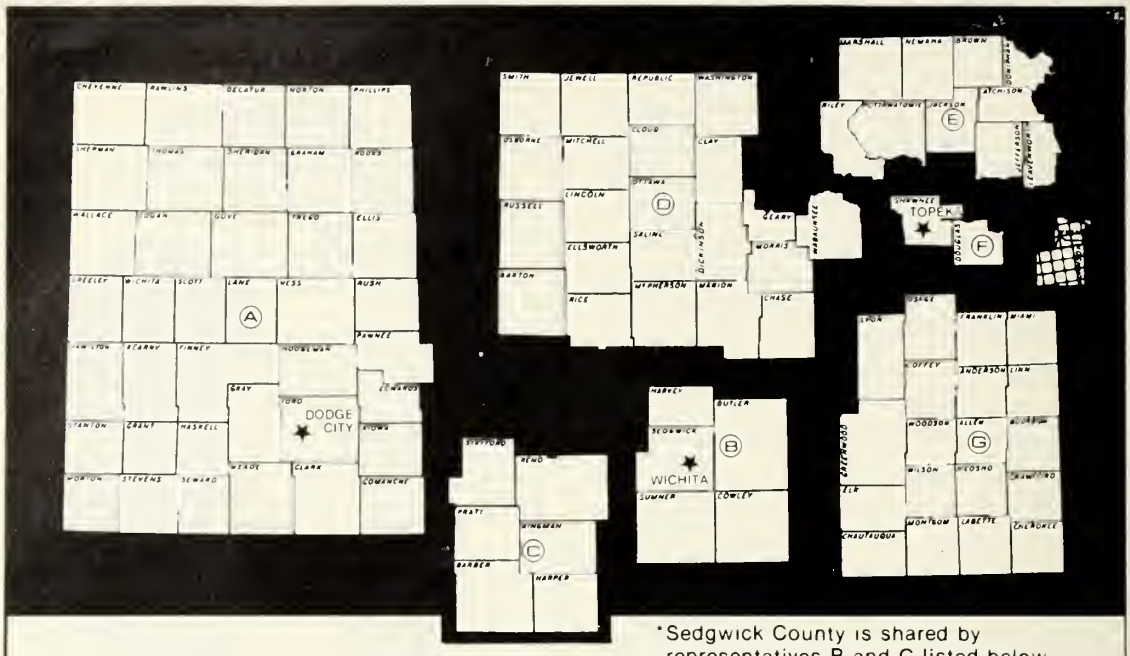
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Principles of Medical Ethics of the American Medical Association

Preamble

These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public.

Section 1

The principal objective of the medical profession is to render service to humanity with full respect for the dignity of man. Physicians should merit the confidence of patients entrusted to their care, rendering to each a full measure of service and devotion.

Section 2

Physicians should strive continually to improve medical knowledge and skill, and should make available to their patients and colleagues the benefits of their professional attainments.

Section 3

A physician should practice a method of healing founded on a scientific basis; and he should not voluntarily associate professionally with anyone who violates this principle.

Section 4

The medical profession should safeguard the public and itself against physicians deficient in moral character or professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

Section 5

A physician may choose whom he will serve. In an emergency, however, he should render service to the best of his ability. Having undertaken the care of a patient, he may not neglect him; and unless he has been discharged he may discontinue his services only after giving adequate notice. He should not solicit patients.

Section 6

A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care.

Section 7

In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him, or under his supervision, to his patients. His fee should be commensurate with the services rendered and the patient's ability to pay. He should neither pay nor receive a commission for referral of patients. Drugs, remedies or appliances may be dispensed or supplied by the physician provided it is in the best interests of the patient.

Section 8

A physician should seek consultation upon request; in doubtful or difficult cases; or whenever it appears that the quality of medical service may be enhanced thereby.

Section 9

A physician may not reveal the confidences entrusted to him in the course of medical attendance, or the deficiencies he may observe in the character of patients, unless he is required to do so by law or unless it becomes necessary in order to protect the welfare of the individual or of the community.

Section 10

The honored ideals of the medical profession imply that the responsibilities of the physician extend not only to the individual, but also to society where these responsibilities deserve his interest and participation in activities which have the purpose of improving both the health and the well-being of the individual and the community.

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Axtell—Axtell Community Hospital—913/736-2762
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Belleville—Republic County Hospital—913/527-2255
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Bucklin—Bucklin District Hospital—316/826-3211
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Coffeyville—Coffeyville Memorial Hospital—316/251-1200
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Dodge City
Trinity Methodist Hospital—316/227-8133
ElDorado—Susan B. Allen Memorial Hospital—316/321-3300
Elkhart—Morton County Hospital—316/697-2141

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Ellsworth—Ellsworth County Veterans Memorial Hospital—913/472-3111
Emporia—Newman Memorial Hospital—316/342-
St. Mary's Hospital—316/342-2450
Eureka—Greenwood County Hospital—316/443-5541
Fort Scott—Mercy Hospital—316/223-2200
Fowler—Fowler Community Hospital—316/646-5281
Fredonia—St. Margaret's Mercy Hospital—316/378-2121
Garden City—St. Catherine Hospital—316/276-8711
Gardner—Gardner Comm. Med. Center—913/884-5115
Garnett—Anderson County Hospital—913/448-3131
Girard—Hospital District #1, Crawford County—316/724-8291
Goessel—Mennonite Bethesda Hospital—316/367-2201
Goodland—NW Kansas Medical Center—913/899-2358
Great Bend—Central Kansas Medical Center—316/792-2511
Greensburg—Kiowa County Memorial Hospital—316/723-2161
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Hadley Regional Med. Center—913/625-3441
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Herington—Herington Municipal Hospital—913/258-2207
Hiawatha—Hiawatha Community Hospital—913/742-2131
Hill City—Graham County Hospital—913/674-2121
Hillsboro—Salem Hospital—316/947-3114
Hoisington—Hoisington Lutheran Hospital—316/653-2114
Holton—Holton City Hospital—913/364-2116
Horton—Horton Community Hospital—913/486-2142
Hoxie—Sheridan County Hospital—913/675-3281
Hugoton—Stevens County Hospital—316/544-2233
Hutchinson
Grace Hospital—316/663-4411
St. Elizabeth's Mercy Hospital—316/665-5531
Independence—Mercy Hospital—316/331-2200
Iola—Allen County Hospital—316/365-3131
Jetmore—Hodgeman County Hospital—316/2811
Johnson—Stanton County Hospital—316/492-6611
Junction City—Geary Community Hospital—913/238-4131
Kansas City
Bethany Hospital—913/621-6600
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Liberal—Southwest Medical Center—316/624-1651
Lincoln—Lincoln County Hospital—913/524-4403
Lindsborg—Lindsborg Community Hospital—913/227-3308
Little River—Hoffman Memorial Hospital—316/897-6241
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Lafene Student Health Ctr., KSU—913/532-6811
Memorial Hospital—913/539-2244
St. Mary Hospital—913/539-3541
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Marion—St. Luke Hospital—316/382-2177
Marysville—Community Memorial Hospital—913/562-2311
McPherson—McPherson County Hospital—316/241-2250
Meade—Meade District Hospital—316/873-2141
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Minneapolis—Ottawa County Hospital—913/392-2122
Minneola—Minneola District Hospital—316/885-4264
Moundridge—Mercy Hospital—316/345-6391
Neodesha—Wilson County Hospital—316/325-2611
Ness City—Ness County District #2—913/798-2291
Newton
Axtell Christian Hospital—316/283-5200
Bethel Deaconess—316/283-2700

Prairie View Hospital—316/283-2400
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Norton County Hospital—913/927-3351
Valley Hope Alcoholic Ctr.—913/927-5101
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Onaga—Community Hospital—913/889-4274
Osborne—Osborne County Memorial Hospital—913/346-2121
Oswego—Oswego Hospital—316/795-4423
Ottawa—Ransom Memorial—913/242-3344
Paola—Miami County Hospital—913/294-2378
Parsons
Labette Co. Medical Center—316/421-4880
MKT Railroad Employees' Hosp.—316/421-2700
Phillipsburg—Phillips County Hospital—913/543-5226
Pittsburg—Mt. Carmel Medical Center—316/231-6100
Plainville—Plainville Rural Hospital—913/434-4553
Pratt—Pratt County Hospital—316/672-6476
Quinter—Gove County Hospital—913/754-3341
Ransom—Grisell Memorial Hospital—913/731-2231
Russell—Russell City Hospital—913/483-3131
Sabetha—Sabetha Community Hospital—913/284-2121
Saint Francis—Cheyenne County Hospital—913/332-2104
Saint John—St. John District Hospital—316/549-3255
Salina
Asbury Hospital—913/827-4411
St. John's Hospital—913/827-5591
Satanta—Satanta District Hospital—316/649-2200
Scott City—Scott County Hospital—316/872-2121
Sedan—Sedan City Hospital—316/725-3115
Seneca—Seneca Hospital—913/336-2181
Shawnee Mission—Shawnee Mission Hospital—913/831-8500
Smith Center—Smith County Memorial Hospital—913/282-6661
Spearville—Spearville District Hospital—316/385-2662
Stafford—Stafford District Hospital—316/234-5221
Sterling—Sterling Community Hospital—316/278-2121
Sublette—Sublette Community Hospital—316/675-2241
Syracuse—Hamilton County Hospital—316/384-7461
Topeka
AT & SF Memorial Hospital—913/233-2361
The Menninger Foundation—913/234-9566
St. Francis Hospital—913/354-8411
Stormont-Vail Hospital—913/234-9961
Tribune—Greeley County Hospital—316/376-4222
Ulysses—Bob Wilson Memorial Hospital—316/356-1266
WaKeeney—Trego County-Lemke Memorial Hospital—913/743-2134
Wamego—Genn Hospital—913/456-2295
Washington—Washington County Hospital—913/325-2211
Wellington
St. Luke's Hospital—316/326-7451
Wellington Hosp. & Clinic—316/326-3353
Westmoreland—Dechairo Hospital—913/224-3311
Wichita
Osteopathic Hospital—316/943-9353
St. Francis Hospital—316/262-6211
St. Joseph Hosp. & Rehab. Ctr.—316/685-1111
Salvation Army Booth Mem. Hosp.—316/363-6174
Sedgwick County Hospital—316/268-8421
Wesley Medical Center—316/685-2151
Winchester—Jefferson County Memorial Hospital—913/774-4340
Winfield—William Newton Memorial Hospital—316/221-2300

STATE INSTITUTIONS

Atchison—Kansas Children's Receiving Home—913/367-6590
Beloit—Girls' Industrial School—913/738-3571
Chanute—SE Kansas Tuberculosis Hospital—316/431-9500
Larned—Larned State Hospital—316/285-2131
Norton—Norton State Hospital—913/927-3301
Osawatomie—Osawatomie State Hospital—913/755-3151
Parsons—Parsons State Hospital & Training Center—316/421-6550
Topeka
Boys' Industrial School—913/296-7709
Kansas Neurological Institute—913/296-5401
Topeka State Hospital—913/296-4596
Winfield—Winfield State Hospital & Training Center—316/221-1200

VETERANS AND MILITARY HOSPITALS

Ft. Leavenworth—Munson Army Hospital—913/684-4021
Ft. Riley—Irwin U. S. Army Hospital—913/239-3663
Topeka
Veterans Administration Hospital—913/233-6411

Wadsworth—Veterans Administration Hospital—913/682-2000
Wichita
USAF Hospital—316/685-9254
Veterans Administration Hospital—316/685-2221

POISON CONTROL CENTERS

Atchison—Atchison Hospital—913/367-2131
Dodge City—Trinity Hospital—316/483-8133
Emporia—Newman Memorial Hospital—316/342-7120
Fort Scott—Mercy Hospital—Day: 316/223-3100; Night: 316/223-2200
Great Bend—Central Kansas Medical Center—Day: 316/793-3523; Night: 316/792-2511
Hays—Hadley Memorial Hospital—Day: 913/625-2515, Ext. 237; Night: 913/625-3441
Kansas City
University of Kansas Medical Center—913/831-6633
Bethany Hospital—913/621-6600
Lawrence—Lawrence Memorial Hospital—Day: 913/843-3680 or 842-4477; Night: 913/843-5874
Parsons—Labette County Medical Center—316/421-4880
Salina—St. John's Hospital—913/827-5591, Ext. 222
Topeka—Stormont-Vail Hospital—913/234-9961, Ext. 161 or 150
Wichita—Wesley Hospital—316/685-2151, Ext. 377

Kansas Poison Control Information Center:
Kansas Department of Health, Food and Drug Division, Topeka—Evan Wright, Director—913/296-3708

HOME HEALTH AGENCIES

Anderson County Hospital, Garnett 60032—913/448-3131
Barton County Health Dept., Courthouse, Great Bend 67530—316/793-7879
Butler-Greenwood County Health Dept., Courthouse, El Dorado 67042—316/321-3400
Clay County Hospital, Clay Center 67432—913/632-2144
Cloud County Health Dept., Courthouse, Concordia 66901—913/243-3588
Coffey County Heath Dept., Courthouse, Burlington 66839—316/364-5831
Douglas County Visiting Nurses' Association, 342 Missouri St., Lawrence 66044—913/843-3738
Ellis County-St. Anthony Hospital, Hays 67601—913/625-2556
Ellsworth County Health Dept., Courthouse, Ellsworth 67439—913/472-4234
Ford County Health Dept., Courthouse, Dodge City 67801—316/225-4991
Franklin County Health Dept., 112 W. Tecumseh, Ottawa 66067—913/242-1873
Graham County Hospital, Hill City 67642—913/674-2121
Harper County Health Dept., Courthouse, Anthony 67003—316/842-5264
Harvey County Health Dept., Courthouse, Newton 67114—316/283-1060
Jackson County Health Dept., Courthouse, Holton 66436—913/364-2670
Jefferson County Health Dept., Courthouse, Oskaloosa 66066—913/863-2447
Kansas City Visiting Nurses' Association, One Gateway Center, Suite 219, Kansas City, Kansas 66117—913/371-3770
Kingman County Health Dept., Courthouse, Kingman, 67068—316/532-2221
Labette County Health Dept., Box 786, Parsons 67357—316/421-4350
Logan County Hospital, Oakley 67748—913/672-3211
Lyon County Home Health Service, Newman Memorial Hospital, Emporia 66801—316/342-8562
McPherson County Health Dept., Courthouse, McPherson 67460—316/241-1753
Morris County Health Dept., Courthouse, Council Grove 66846—316/767-5175
Osage County Health Dept., Courthouse, Lyndon 66451—913/828-3281
Pratt County Health Dept., 106 E. 2nd, Pratt 67124—316/672-6122
Reno County-St. Elizabeth Hospital, 500 W. 20th, Hutchinson 67501—316/665-5531
Republic County Health Dept., Courthouse, Belleville 66935—913/527-5385
Rice County Health Dept., Courthouse, Lyons 67554—316/257-2171
Riley County Health Dept., 616 Poyntz, Manhattan 66502—913/776-9721
Russell County Health Dept., Courthouse, Russell 67665—913/483-2641
Salina-Saline County Health Dept., 300 W. Ash, Salina 67401—913/827-9376
Sedgwick County Health Dept., 1900 E. 9th, Wichita 67214—316/268-8433
Shawnee County Health Dept., 1615 W. 8th, Topeka 66606—913/233-8961
Sheridan County Hospital, Hoxie 67740—913/675-3281
Thomas County-St. Thomas Hospital, Colby 67701—913/462-3335
Washington County Health Dept., Washington 66968—913/325-2600

GENETIC COUNSELING CENTERS

Kansas City—Genetic Counseling Center, Division of Medical Genetics, K.U.M.C., 39th & Rainbow Blvd., Kansas City, KS 66103—913/588-6043—R. Neil Schimke, M.D., Director

Topeka—Genetic Counseling Center, 105-A Medical Arts Bldg., 1001 Horne, Topeka, KS 66604—913/232-1295—David E. Gray, M.D., Director

Wichita—Genetic Counseling Unit, Wesley Medical Center, 550 N. Hillside, Wichita, KS 67214—316/685-2151

HEALTH INFORMATION ACCESS

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. . . Preparation of bibliographies/MEDLINE searches ($5.00 each)
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In Area Code 913	1-800-332-4193	KUMC	Kansas City, Ks.

Use this toll-free INWATS number for the area in which you live. There are trained Medical Librarians on duty Monday through Friday from 8 AM to 5 PM to answer your information needs.

To Contact Your Legislators:

U. S. CONGRESSIONAL DELEGATION

Senators:

James B. Pearson, 5313 Dirksen Senate Office Bldg., 20515. Phone extension: 4774

Robert Dole, 4213 Dirksen Senate Office Bldg., 20515. Phone extension: 6521

Representatives:

1. Keith G. Sebelius, 1211 Longworth House Office Bldg., 20510. Phone extension: 2715
2. Martha Keys, 1207 Longworth House Office Bldg., 20510. Phone extension: 6601
3. Larry Winn, Jr., 2430 Rayburn House Office Bldg., 20515. Phone extension: 2865
4. Garner E. Shriver, 2209 Rayburn House Office Bldg., 20515. Phone extension: 6216
5. Joe Skubitz, 2211 Rayburn House Office Bldg., 20515. Phone extension: 3911

When writing, the following form is appropriate:

Senators:

Honorable John Doe,
United States Senate
Address

Dear Senator Doe:

Representatives:

Honorable John Doe,
House of Representatives
Address

Dear Mr. Doe:

To telephone Senators and Representatives in Washington, dial or call Area Code 202, 224 plus the four-digit extension shown above with the Senator's name. To reach a Representative, dial 225, plus the extension number.

KANSAS LEGISLATURE

To write state Senators and Representatives, the following addresses may be used:

Senators:

Honorable John Doe
Senate Chambers
State Capitol Building
Topeka, KS 66612

Dear Senator Doe:

Phone: (913) 296-7300

Representatives:

Honorable John Doe
House of Representatives
State Capitol Building
Topeka, KS 66612

Dear Representative Doe:

Phone: (913)-296-7500

Legal Definition of Death

KSA 77-202. Definition of Death.

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous respiratory and cardiac function and, because of the disease or condition which caused, directly or indirectly, these functions to cease, or because of the passage of time since these functions ceased, attempts at resuscitation are considered hopeless; and, in this event, death will have occurred at the time these functions ceased; or

A person will be considered medically and legally dead if, in the opinion of a physician, based on ordinary standards of medical practice, there is the absence of spontaneous brain function; and if based on ordinary standards of medical practice, during reasonable attempts to either maintain or restore spontaneous circulatory or respiratory function in the absence of aforesaid brain function, it appears that further attempts at resuscitation or supportive maintenance will not succeed, death will have occurred at the time when these conditions first coincide. Death is to be pronounced before artificial means of supporting respiratory and circulatory function are terminated and before any vital organ is removed for purposes of transplantation.

These alternative definitions of death are to be utilized for all purposes in this state, including the trials of civil and criminal cases, any laws to the contrary notwithstanding.

Excerpts From the Kansas Healing Arts Act

K.S.A. 65-2801. Recognizing that the practice of the healing arts is a privilege granted by legislative authority and is not a natural right of individuals, it is deemed necessary as a matter of policy in the interests of public health, safety and welfare, to provide laws and provisions covering the granting of that privilege and its subsequent use, control and regulation to the end that the public shall be properly protected against unprofessional, improper, unauthorized and unqualified practice of the healing arts and from unprofessional conduct by persons licensed to practice under this act.

K.S.A. 65-2802. For the purpose of this act the following definitions shall apply:

(a) The healing arts include any system, treatment, operation, diagnosis, prescription, or practice for the ascertainment, cure, relief, palliation, adjustment, or correction of any human disease, ailment, deformity, or injury, and includes specifically but not by way of limitation the practice of medicine and surgery; the practice of osteopathic medicine and surgery; and the practice of chiropractic. . . .

K.S.A. 65-2803. No person shall engage in the practice of any branch of the healing arts, as hereinafter defined, unless he shall have obtained from the board a license for that purpose.

K.S.A. 65-2804. No person shall receive a permanent license under this act until such person shall have furnished satisfactory evidence to the board that such person has attained legal age and is of good moral character. In determining moral character under this section, the board shall take into consideration any felony conviction of such person, but such a conviction shall not automatically operate as a bar to licensure.

K.S.A. 65-2805. The board may refuse to grant a license to any person, otherwise qualified, upon any of the grounds for which a license may be revoked under the provisions hereinafter contained.

K.S.A. 65-2807. Every license issued under this act shall be presumptive evidence of the right of the holder to practice that branch of the healing arts and only such branch as is specified therein. The records of the board shall reflect the type of license issued to each applicant.

K.S.A. 65-2808. The name, age, place of birth, current address, school, and date of graduation, and date of license, if one be issued, with rating or grades received, of all applicants for examination shall be filed in the office of the board, which office shall be located in the city of Topeka. The names of applicants shall be appropriately indexed, and all other records relating to that application or license granted shall be given the same designation. A suitable record shall also be kept of those granted licenses. Applications shall be upon forms prepared by the board, and completed applications shall be retained as a part of its permanent records. All applications based on licenses granted in other states shall be received upon forms prepared by the board and entered as near as may be in the same form as are those applying for examinations. In addition to the date of license, the length of time of practice in all other states shall be given and entered. All such records shall be open to public inspection under proper regulations adopted by the board.

K.S.A. 65-2811. The secretary of the board may issue a temporary permit to practice the appropriate branch of the healing arts to any person:

(a) Who shall have made proper application for a license by examination or endorsement; has the required qualifications for such license; and has paid the prescribed examination and other fees, and such permit, when issued shall authorize the person receiving same to practice within the limits of his permit until the date of the next examination, but no more than one such temporary permit shall be issued to any one person without the majority approval of the members of the board.

(b) Who is engaged in a full-time approved postgraduate training program; has made proper application for such temporary permit upon forms approved by the board; meets all qualifications of licensure, except examinations and postgraduate training, as required by this act, and has paid the prescribed fees as established by the board for such temporary permit. Such permit, when issued, shall authorize the person receiving the same to practice his branch of the healing arts in the postgraduate training program while continuously so engaged, but shall not authorize the person receiving the same to engage in the private practice of . . . the healing arts.

K.S.A. 65-2812. For the purpose of giving examinations to applicants for license to practice the healing arts prescribed herein, and to administer and execute this act, the governor, by and with the consent of the senate, shall appoint a state board of healing arts consisting of thirteen (13) members. . . .

K.S.A. 65-2813. Five (5) members of the board shall hold a degree of doctor of medicine from an accredited medical school and shall be residents of and have been actively engaged in the practice of medicine and surgery in the state of Kansas under license issued in this state,

for a period of at least six (6) consecutive years immediately preceding their appointment; three (3) members shall hold a degree of doctor of osteopathy from an accredited school of osteopathic medicine and surgery and shall be residents of and have been actively engaged in the practice of osteopathic medicine and surgery in the state of Kansas under license issued in this state, for a period of at least six (6) consecutive years immediately preceding their appointment; and three (3) members shall hold a degree of doctor of chiropractic from an accredited school of chiropractic and shall be residents of and have been actively engaged in the practice of chiropractic in the state of Kansas under license issued in this state, for a period of at least six (6) consecutive years immediately preceding their appointment; and one member shall be a registered podiatrist and shall be a resident of and have been actively engaged in the practice of podiatry in the state of Kansas under license issued in this state for a period of at least six (6) consecutive years immediately preceding appointment; and one member shall be from the general public of this state.

K.S.A. 65-2828. The board shall prepare rules regulating examinations and grading of examination papers. In the absence of any definite provision all applicants shall be required to attain an average grade of seventy-five percent (75%) and not to fall below a grade of sixty percent (60%) in any one subject. When an applicant falls below sixty percent (60%) in not more than two (2) subjects he may take those over without charge at any time within one (1) year. If an applicant falls below sixty percent (60%) in more than two (2) subjects, or if he fails to attain an average grade of seventy-five percent (75%) in all subjects, he may take the entire examination over, without charge, at any time within twelve (12) months, or at the first subsequent meeting of the board if it is not in session within that time.

K.S.A. 65-2830. The examination under this act shall be given and graded by members of the board who hold a license in the branch of the healing arts in which the applicant seeks to be licensed.

K.S.A. 65-2833. The board, without examination, may issue a license to a person who has been in the active practice of a branch of the healing arts in some other state, territory, the District of Columbia, or other country upon certificate of the proper licensing authority of that state, territory, District of Columbia, or other country certifying that the applicant is duly licensed, that his license has never been suspended or revoked, and that, so far as the records of said authority are concerned, the applicant is entitled to its endorsement. Said applicant shall also present proof of the following things:

(a) That the state, territory, District of Columbia, or other country in which the applicant last practiced shall have and maintain standards at least equal to those maintained by Kansas.

(b) That the applicant's original license was based upon the examination and the grade given at such examination.

(c) Date of the applicant's original and any and all endorsed licenses and the date and place from which any license was attained.

(d) That the applicant has been actively engaged in practice under such license or licenses since issued, and if not, fix the time when and reason why the applicant was out of practice.

(e) That the applicant has a reasonable ability to communicate in English.

An applicant for endorsement registration shall not be licensed unless the applicant's individual qualifications meet the Kansas legal requirements.

In lieu of any other requirement prescribed by law for satisfactory passage of any examination of any branch of the healing arts the board may accept evidence satisfactory to it that the applicant or licensee has satisfactorily passed an equivalent examination given by a national board of examiners in chiropractic, osetopathic medicine and surgery or medicine and surgery as now required by Kansas statutes for endorsement from other states.

K.S.A. 65-2836. A license may be revoked, suspended or limited when the licensee has been found to have committed any of the following acts: (a) Fraud in securing the license. (b) Immoral, unprofessional or dishonorable conduct. (c) Conviction of a felony if the board determines, after investigation, that such person has not been sufficiently rehabilitated to warrant the public trust. (d) Use of untruthful or improbable statements or flamboyant, exaggerated or extravagant claims in advertisements concerning such licensee's professional excellence or abilities. (e) Use and distribution of literature advertising professional abilities. (f) Other unethical advertising practice. (g) Addiction to or distribution of intoxicating liquors or drugs for any other than lawful purposes. (h) Willful or repeated violation of this act or the rules and regulations of the secretary of health and environment. (i) Unlawful invasion of the field of practice of any branch of the healing arts in which the licensee is not licensed to practice. (j) Failure to pay annual renewal fees specified in this act. (k) Failure to take some form of postgraduate work each year or as required by the board. (l) Engaging in the practice of the healing arts under a false or assumed

name, or the impersonation of another practitioner. The provisions of this subsection relating to an assumed name shall not apply to licensees practicing under a professional corporation or other legal entity duly authorized to provide such professional services in the state of Kansas. (m) Inability to practice the branch of the healing arts for which such person is licensed with reasonable skill and safety to patients by reason of illness, alcoholism, excessive use of drugs, controlled substances, chemicals or any other type of material or as a result of any mental or physical condition. In determining whether or not such inability exists, the board, upon probable cause, shall have authority to compel a licensee to submit to a mental or physical examination by such persons as the board may designate. Failure of any licensee to submit to such examination when directed shall constitute an admission of the allegations against him, unless the failure was due to circumstances beyond his control, and the board may enter a default and final order in any case of default without just cause being shown to the board without the taking of testimony or presentation of evidence. A person affected by this subsection shall be offered, at reasonable intervals, an opportunity to demonstrate that he can resume the competent practice of the healing arts with reasonable skill and safety to patients. For the purpose of this subsection, every person licensed to practice the healing arts and who shall accept the privilege to practice the healing arts in this state by so practicing or by the making and filing of an annual renewal to practice the healing arts in this state shall be deemed to have consented to submit to a mental or physical examination when directed in writing by the board and further to have waived all objections to the admissibility of the testimony or examination report of the person conducting such examination at any proceeding or hearing before the board on the ground that such testimony or examination report constitutes a privileged communication. In any proceeding by the board pursuant to the provisions of this subsection, the record of such board proceedings involving the mental and physical examinations, shall not be used in any other administrative or judicial proceeding. (n) Had his license to practice the healing arts revoked, suspended, or limited or had other disciplinary action taken, or an application for a license denied, by the proper licensing authority of another state, territory, District of Columbia, or other country. (o) Violated any lawful rule or regulation promulgated by the board or violated any lawful order or directive of the board previously entered by the board.

K.S.A. 65-2837. For the purpose of the preceding section, "unprofessional conduct" shall consist of any of the following acts: (a) Solicitation of professional patronage, or profiting by the acts of those representing themselves to be agents of the licensee. (b) Receipt of fees on the assurance that a manifestly incurable disease can be permanently cured. (c) Assisting in the care or treatment of a patient without the consent of said patient, his attending physician or his legal representatives. (d) The use of any letters, words, or terms, as an affix, on stationery, in advertisements, or otherwise indicating that such person is entitled to practice a branch of the healing arts for which he is not licensed. (e) Performing, procuring or aiding and abetting in the performance or procurement of a criminal abortion. (f) Willful betrayal of confidential information. (g) Making use of any advertising statements of a character tending to deceive or mislead the public. (h) Advertising professional superiority or the performance of professional services in a superior manner. (i) Advertising prices for professional service; posting of fees as required by law shall not be deemed advertising. (j) Advertising by means of a large display, lights, signs, or containing as a part thereof, the representation of any portion of the human body. (k) Employing or making use of advertising solicitors or free public press agents. (l) Advertising any free professional services or free examination. (m) Offering discounts or inducements to prospective patients by means of coupons or otherwise to perform professional services during the given period of time or during any period of time for a lesser or more attractive price. (n) Advertising to guarantee any professional service or to perform any operation painlessly. (o) Individually advertising any price or prices of corrective devices or services. (p) Participating in any action as a staff member of a medical care facility which is designed to exclude or which results in the exclusion of any person licensed to practice medicine and surgery from the medical staff of a nonprofit medical care facility licensed in this state because of the branch of the healing arts practiced by such person or without just cause.

K.S.A. 65-2838. The board shall have jurisdiction of the proceedings to revoke, suspend or limit the license of any licensee practicing under this act. The petition for the revocation, suspension or limitation of a license may be filed: (a) By the attorney general in all cases; (b) by the county or district attorney of the county in which the licensee resides or has practiced; or (c) by a regularly employed attorney of the board. Said petition shall be filed in the office of the secretary of the board.

The board and the licensee may enter into a stipulation which shall be binding upon the board and the licensee entering into such stipulation, and the board may enter its enforcement order based upon such stipulation without the necessity of filing any formal charges or holding hearings in the case.

K.S.A. 65-2852. The following fees shall be collected by the board:

(a) For a license, issued upon the basis of an examination given by the board, in a sum to be fixed by the board of not more than one hundred dollars ($100).

(b) For a license, issued without examination and by endorsement, in a sum to be fixed by the board.

(c) For a license, issued upon a certificate from the aforesaid national boards, in a sum fixed by the board.

(d) For the annual renewal of a license, the sum of not less than five dollars ($5) nor more than fifteen dollars ($15). On or before May 15, each year, the state board of healing arts shall determine the amount of funds that will be required during the next ensuing license year beginning July 1, to properly administer the law which the board is directed to administer under K.S.A. 65-2801 *et seq.*, as amended, and shall fix the fees annually for the succeeding year in such reasonable sums as may be necessary within the limitations prescribed.

(e) For a certified statement from the board that a licensee is licensed in this state, the sum of ten dollars ($10).

(f) For any copy of any license issued by the board, the sum of ten dollars ($10).

K.S.A. 65-2866. Upon the request of the board, the attorney general or county or district attorney of the proper county shall institute in the name of the state or board the proper proceedings against any person regarding whom a complaint has been made charging him with the violation of any of the provisions of this act, and the attorney general, and such county or district attorney, at the request of the attorney general or of the board shall appear and prosecute any and all such actions.

K.S.A. 65-2867. The opening of an office for the practice of the healing arts, the announcing to the public in any way the intention to practice the healing arts, the use of any professional degree, or designation, or any sign, card, circular, device, or advertisement as a practitioner, or as a person skilled in the same, shall be prima facie evidence of engaging in the practice of said healing arts as defined in this act.

K.S.A. 65-2868. For the purpose of this act the following persons shall be deemed to be engaged in the practice of the healing arts: Persons who hold themselves out to the public as being engaged in or who maintain an office for the practice of the healing arts as defined in K.S.A. 65-2802, as amended.

K.S.A. 65-2869. For the purpose of this act the following persons shall be deemed to be engaged in the practice of medicine and surgery:

(a) Persons who publicly profess to be physicians or surgeons, or publicly profess to assume the duties incident to the practice of medicine or surgery or any of their branches.

(b) Persons who prescribe, recommend or furnish medicine or drugs, or perform any surgical operation of whatever nature by the use of any surgical instrument, procedure, equipment, or mechanical device for the diagnosis, cure or relief of any wounds, fractures, bodily injury, infirmity, disease or physical or mental illness, of human beings.

(c) Persons who attach to their name the title M.D., surgeon, physician, physician and surgeon, or any other word or abbreviation indicating that they are engaged in the treatment or diagnosis of ailments, diseases or injuries of human beings.

Sec. 31. K.S.A. 65-2870 is hereby amended to read as follows: 65-2870. For the purpose of this act the following persons shall be deemed to be engaged in the practice of osteopathy or to be osteopathic physicians and surgeons:

(a) Persons who publicly profess to be osteopathic physicians, or publicly profess to assume the duties incident to the practice of osteopathy, as heretofore interpreted by the supreme court of this state, shall be deemed to be engaged in the practice of osteopathy.

(b) Osteopathic physicians and surgeons shall mean and include those persons who receive a license to practice medicine and surgery pursuant to the provisions of this act.

K.S.A. 65-2872. The practice of the healing arts shall not be construed to include the following persons:

(a) Persons rendering gratuitous services in the case of an emergency.

(b) Persons gratuitously administering ordinary household remedies.

(c) The members of any church practicing their religious tenets provided they shall not be exempt from complying with all public health regulations of the state.

(d) Students while in actual classroom attendance in an accredited healing arts school who after completing one (1) year's study treat diseases under the supervision of a licensed instructor.

(e) Students upon the completion of at least three (3) years study in an accredited healing arts school and who, as a part of their academic requirements for a degree, serve a preceptorship not to exceed ninety (90) days under the supervision of a licensed practitioner.

(f) Persons who massage for the purpose of relaxation, muscle conditioning, or figure improvement, provided no drugs are used and such persons do not hold themselves out to be physicians or healers.

(g) Persons whose professional services are performed under the supervision or by order of or referral from a practitioner who is licensed under this act.

(h) Persons in the general fields of psychology, education and social work, dealing with the social, psychological and moral well-being of individuals and/or groups provided they do not use drugs and do not hold themselves out to be the physicians, surgeons, osteopathic physicians or chiropractors.

(i) Practitioners of the healing arts in the United States army, navy, air force, public health service, and coast guard or other military service when acting in the line of duty in this state.

(j) Practitioners of the healing arts licensed in another state when and while incidentally called into this state in consultation with practitioners licensed in this state, or residing on the border of a neighboring state, duly licensed under the laws thereof to practice a branch of the healing arts, but who do not open an office or maintain or appoint a place to regularly meet patients or to receive calls within this state.

(k) Dentists practicing their professions, when licensed and practicing in accordance with the provisions of article 14 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(l) Optometrists practicing their professions, when licensed and practicing under and in accordance with the provisions of article 15 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(m) Nurses practicing their profession when licensed and practicing under and in accordance with the provisions of article 11 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(n) Podiatrists practicing their profession, when licensed and practicing under and in accordance with the provisions of article 20 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

(o) Every act or practice falling in the field of the healing art, not specifically excepted herein, shall constitute the practice thereof.

(p) Pharmacists practicing their profession, when licensed and practicing under and in accordance with the provisions of article 16 of chapter 65 of the Kansas Statutes Annotated, or amendments thereto, and any interpretation thereof by the supreme court of this state.

K.S.A. 65-2873. (a) Each applicant for a license by examination to practice any branch of the healing arts in this state shall: (1) Present evidence of proficiency in the basic sciences issued by the national board of medical examiners, the board of examiners of osteopathic physicians and surgeons or the national board of chiropractic examiners or such other examining body as may be approved by the board or in lieu thereof pass such examination as the board may require in the basic science subjects. (2) Present proof that he is a graduate of an accredited healing arts school or college. (3) Pass an examination prescribed and conducted by the board covering the subjects incident to the practice of the branch of healing art for which the applicant applies.

(b) Any person seeking a license to practice medicine and surgery shall present proof that he has completed acceptable postgraduate study as may be required by the board by regulations.

(c) No person licensed to practice and actively engaged in the practice of the healing arts shall attach to his name any title, or any word or abbreviation indicating that he is a doctor of any branch of the healing arts other than the branch of the healing arts in which such person holds a license, but shall attach to his name the degree or degrees to which he is entitled by reason of his diploma.

K.S.A. 65-2874. An accredited school of medicine for the purpose of this act shall be a school or college which requires the study of medicine and surgery in all of its branches, which the board shall determine to have a standard of education not below that of the university of Kansas school of medicine. All such schools shall be approved by the board.

K.S.A. 65-2886. Every licensee hereunder shall be subject to all state and municipal regulations relating to the control of contagious and infectious diseases; sign death certificates and any and all matters pertaining to public health, and shall report all matters pertaining to public health as required by law.

K.S.A. 65-2895. (a) There is hereby created a designation of fellowship license which may be issued by the secretary to a person who is a graduate of an accredited school of the healing arts, who has successfully completed the examination given by the American Medical Association's Educational Council for Foreign Medical Graduates and who is employed by the department of social and rehabilitation services or employed by any institution within the department of corrections. The fellowship license shall confer upon the holder the right and privilege to practice that branch of the healing arts in which the holder of the fellowship license is proficient and shall obligate the holder to comply with all requirements of such license. Practice privileges are restricted as follows: the fellowship license shall be valid only during the period in which the holder is employed by the department of social and rehabilitation services or employed by any institution within the department of corrections, and only within the institution to which he is assigned, but no fellowship license shall be valid for more than two (2) consecutive years following the date

of original issuance. If such license was in effect on the effective date of this act, the date on which this act becomes effective shall constitute the date of original issuance of the fellowship license for the purpose of computing such two (2) year limitation. No fellowship license shall be renewable after such two (2) year period.

New Sec. 39. (a) There is hereby created a designation of visiting professor temporary license which may be issued by the secretary to a person who holds a degree from an accredited school of medicine or an accredited school of osteopathy and who is licensed in another state, territory, the District of Columbia or in another country to practice medicine and surgery and who is employed by the University of Kansas School of Medicine or by a licensed medical care facility engaged in the education of medical students, nurses, physicians' assistants or other paramedical personnel, or which is offering an approved postgraduate program or which is engaged in the continuing education of its medical personnel. The chief administrative officer of the University of Kansas School of Medicine or of the licensed medical care facility shall apply to the secretary on behalf of the visiting professor to obtain for said professor a visiting professor temporary license. The request for a visiting professor temporary license shall be submitted by the chief administrative officer upon forms approved by the board. Such application shall state that the visiting professor is licensed in another state, territory, the District of Columbia or in another country to practice medicine and surgery, that the said professor is known to be professionally qualified and that no fee will be charged for services of the visiting professor. The visiting professor temporary license shall confer upon the holder the right and privilege to practice medicine and surgery and shall obligate the holder to comply with all requirements of such license. The visiting professor temporary license shall be valid only during the period in which the holder is employed by the University of Kansas School of Medicine or by a licensed medical care facility, and such license shall be valid only for the practice of medicine and surgery which is required to perform the professorship.

DIRECTORS OF FAMILY PRACTICE RESIDENCY

St. Joseph Medical Center of Wichita is seeking a director and associate directors for its Family Practice Residency Program.

Candidates for director must be family practice board certified, have at least five years practice experience since state licensure, demonstrated leadership qualities with experience, teaching experience, and commitment to full-time directorship responsibilities.

For associate directors, we prefer family practice board certified or eligible, but will consider general internist, Ob/Gyn, or general pediatrician. Must have teaching experience with residency or student program, minimum of two years practice experience which may include residency training. Preference given to candidates seeking full-time positions.

Interested physicians should contact Lew W. Purinton, M.D., Vice President for Medical Education, St. Joseph Medical Center, 3600 East Harry, Wichita, Kansas 67218. Telephone (316) 685-1111, ext. 303.

Good Samaritan Act

65-2891. Emergency care or assistance at scene of accident by certain persons, including treatment of minors; liability in damages; emergency care or assistance to minors engaging in sports without parental consent; damage liability; temporary emergency care or assistance during emergency within a hospital; liability; ordinary standards of care and rules of negligence applicable to emergency care and treatment. (a) Any physician or any other practitioner of the healing arts, or dentist licensed to practice under the laws of this state, or any other state, or any registered professional nurse, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners or any person who has successfully completed an approved emergency service program as defined by K.S.A. 1975 Supp. 65-2891a, who in good faith renders emergency care or assistance at the scene of an emergency or accident including treatment of a minor without first obtaining the consent of the parent or guardian of such minor shall not be liable for any civil damages for acts or omissions other than damages occasioned by gross negligence or by willful or wanton acts or omissions by such person in rendering such emergency care.

(b) Any physician, registered professional nurse or dentist licensed under the laws of this state, or of any other state, to practice medicine, professional nursing, dentistry or surgery, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners, may, in good faith render emergency care or assistance, without compensation, to any minor requiring such care or assistance as a result of having engaged in competitive sports, without first obtaining the consent of the parent or guardian of such minor. Such physician, registered professional nurse, dentist or physicians' assistant shall not be liable for any civil damages other than damages occasioned by gross negligence or by willful or wanton acts or omissions by such person in rendering such emergency care.

(c) Any physician, registered professional nurse or dentist licensed under the laws of this state or any other state to practice medicine, professional nursing, dentistry or surgery, or any physicians' assistant who has successfully completed an American medical association approved training program and has successfully completed the national board examination for physicians' assistants of the American board of medical examiners, may in good faith render emergency care or assistance during an emergency which occurs within a hospital or elsewhere, with or without compensation, until such time as the physician employed by the patient or by his or her family or by his or her guardian assumes responsibility for such patient's professional care. The physician, registered professional nurse, dentist or physicians' assistant rendering such emergency care shall not be held liable for any civil damages other than damages occasioned by negligence.

(d) Any provision herein contained notwithstanding, the ordinary standards of care and rules of negligence shall apply in those cases wherein emergency care and assistance is rendered in any physician's or dentist's office, clinic, emergency room or hospital with or without compensation. [K. S. A. 65-2891; L. 1973, ch. 252, §1; L. 1975, ch. 326, §1; July 1.]

65-2891a. Same; emergency service program defined. As used in this act, emergency service program means a program of instruction, approved by the university of Kansas medical center, consisting of eighty (80) clock hours or the equivalent thereof, of preliminary emergency medical care and at least eight (8) clock hours annually of supplemental instruction.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

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Performance of Autopsy

65-2893. Autopsies; performance of; authorization. In any case of death wherein notification of the coroner is not required by K.S.A. 19-1031 and amendments thereto, or any case in which the coroner does not elect to perform an autopsy, an autopsy may be performed upon the body of a deceased person by a physician or surgeon when so authorized, in writing by the decedent during his lifetime. Additionally, unless the physician or surgeon has knowledge that contrary directions have been given by the decedent, the following persons in the order of priority stated, may consent to the performance of an autopsy: (1) The spouse, if one survives and if not incapacitated. If no spouse survives or if the spouse is incapacitated;

(2) an adult child;

(3) either parent;

(4) an adult brother or sister;

(5) the guardian of the decedent at the time of his death;

(6) any other person or agency authorized or under obligation to dispose of the body.

If there is no surviving spouse and an adult child is not immediately available at the time of death, the autopsy may be authorized by either parent; if a parent is not immediately available, it may be authorized by any adult brother or sister: *Provided,* That such autopsy shall not be performed under a consent given as required by a member of the class listed in (2), (3) or (4) above, if, before such autopsy is performed, any member of the class shall object to the performance of such autopsy in writing to the physician or surgeon by whom the autopsy is to be performed.

Treatment of Minors

65-2892. Examination and treatment of persons under 18 for venereal disease; liability. Any physician, upon consultation by any person under eighteen (18) years of age as a patient, may, with the consent of such person who is hereby granted the right of giving such consent, make a diagnostic examination for venereal disease and prescribe for and treat such person for venereal disease including prophylactic treatment for exposure to venereal disease whenever such person is suspected of having a venereal disease or contact with anyone having a venereal disease. All such examinations and treatment may be performed without the consent of, or notification to, the parent, parents, guardian or any other person having custody of such person. Any physician examining or treating such person for venereal disease may, but shall not be obligated to, in accord with his opinion of what will be most beneficial for such person, inform the spouse, parent, custodian, guardian or fiancé of such person as to the treatment given or needed without the consent of such person. Such informing shall not constitute libel or slander or a violation of the right of privacy or privilege or otherwise subject the physician to any liability whatsoever. In any such case, the physician shall incur no civil or criminal liability by reason of having made such diagnostic examination or rendered such treatment, but such immunity shall not apply to any negligent acts or omissions. The physician shall incur no civil or criminal liability by reason of any adverse reaction to medication administered, provided reasonable care has been taken to elicit from such person under eighteen (18) years of age any history of sensitivity or previous adverse reaction to the medication.

65-2892a. Examination and treatment of minors for drug abuse, misuse or addiction; liability. Any physician licensed to practice the healing arts in Kansas, upon consultation with any minor as a patient, may examine and treat such minor for drug abuse, misuse or addiction if such physician has secured the prior consent of such minor to the examination and treatment. All such examinations and treatment may be performed without the consent of any parent, guardian or other person having custody of such minor, and all minors are hereby granted the right to give consent to such examination and treatment. In any such case, the physician shall incur no civil or criminal liability by reason of having made such diagnostic examination or rendered such treatment, but such immunity shall not apply to any negligent acts or omissions. The physician shall incur no civil or criminal liability by reason of any adverse reaction to medication administered, if reasonable care has been taken.

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Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

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References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

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All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

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Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

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49505 King George's Medical College, Lucknow University, Lucknow, Uttar Pradesh
49508 Christian Medical College Punjab University, Ludhiana, Punjab
49509 St. John's Medical College, Bangalore, Mysore (before June 1966: Government Medical College, Mysore University, Mysore)
49511 Andhra Medical College Andhra University, Visakhapatnam, Andhra
49516 Stanley Medical College Madras University, Madras, Madras
49521 Osmania Medical College Osmania University, Hyderabad, Andhra
49522 B.J. Medical College Gujarat University, Ahmedabad, Gujarat
49523 Medical College Baroda University, Baroda, Gujarat
49527 Christian Medical College, Vellore, Madras
49528 Byramjee Jeejeebhoy Medical College, Poona, Maharashtra
49529 Government Medical College Punjab University, Patiala, Punjab
49530 Sawai Man Singh Medical College Rajasthan University, Jaipur, Rajasthan
49531 Medical College Kerala University, Trivandrum, Kerala
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49536 All-India Institute of Medical Sciences, New Delhi, Delhi
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50602 Faculty of Medicine Airlangga Airlangga University, Surabaya

Iran
51701 Faculty of Medicine University of Teheran, Teheran

Iraq
52801 Faculty of Medicine Baghdad University, Baghdad

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56115 Facolta di Medicina e Chirurgia dell'Universita di Perugia, Perugia
56117 Facolta di Medicinia e Chirurgia dell'Universita di Roma, Roma
56119 Facolta di Medicina e Chirurgia dell'Universita di Siena, Siena

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57211 Tokyo Medical College (Nippon Ikadaigaku) Hongo, Tokyo (Extinct)
57220 School of Medicine Keio Gijuku University, Tokyo, Tokyo

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58305 Pyongyang Medical College, Pyongyang, North Korea

58306 College of Medicine Chun Nam National University, Kwangiu
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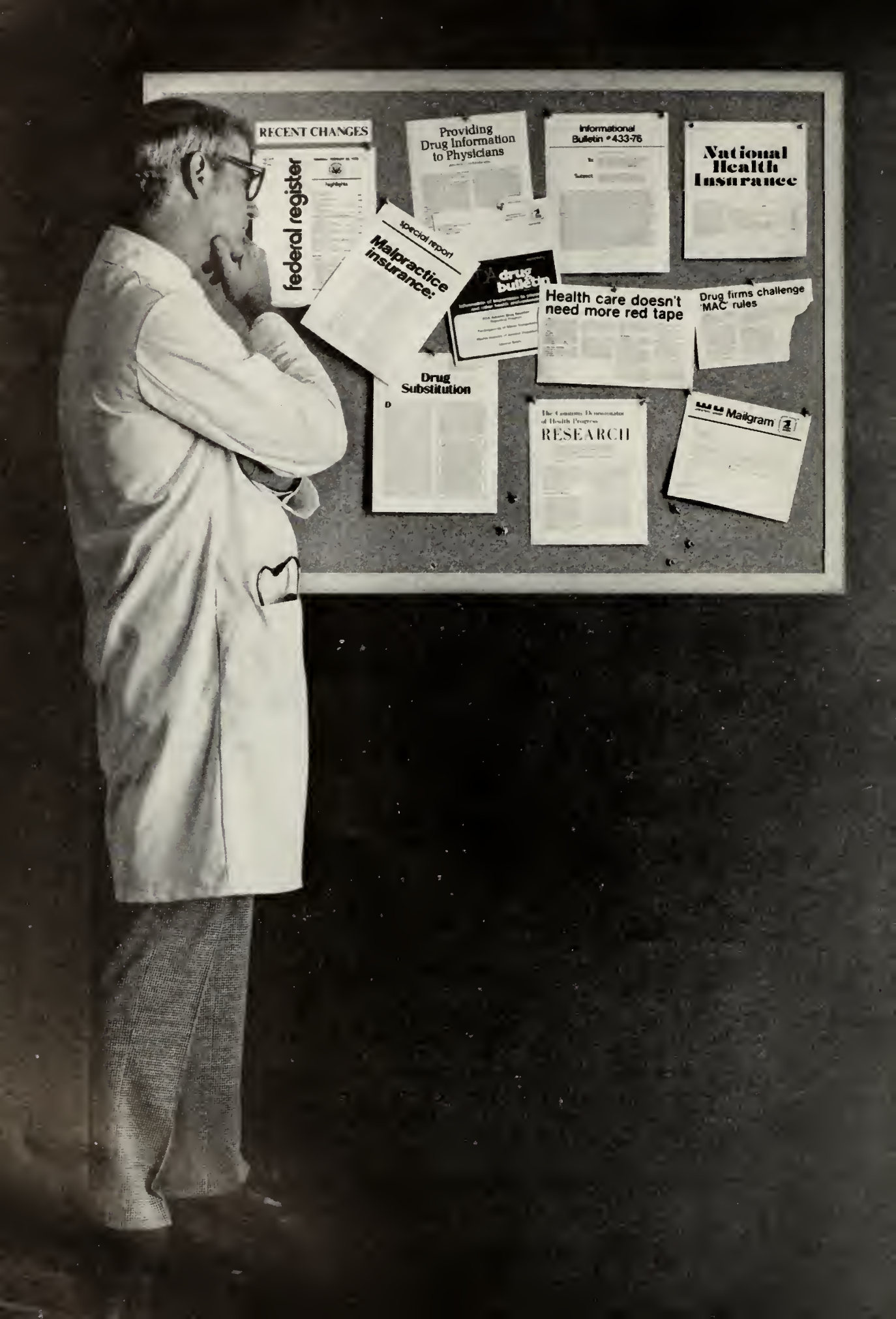
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

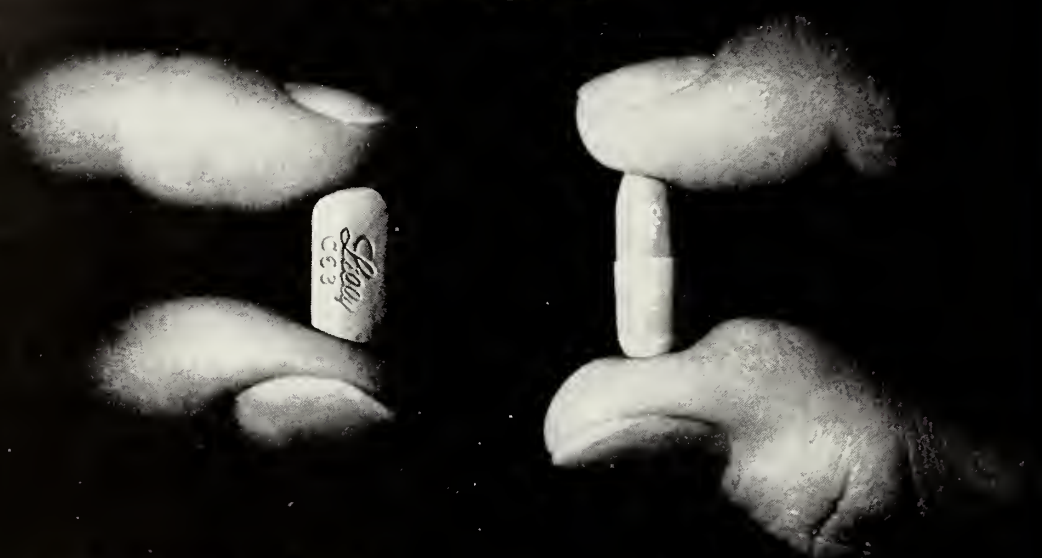
If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.



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Clifton, H. David, Wichita
Clinton, Dale L., Lawrence
Coale, Lloyd H., Kansas City, Kan.
Cobb, Leslie H., Mulvane
*Cochran, Paul W., Topeka
Coe, David L., Shawnee Mission
Coe, Richard O., Prairie Village
Coffey, Roy B., Salina
Cohen, Louis, Topeka
*Cohen, Sidney, Topeka
Cohen, Robert A., Prairie Village
*Cohlmia, Jerry B., Wichita
Cohn, Steven G., Overland Park
Cohnberg, Rosellen E., Cedar Vale
Cokeley, John M., Topeka
Coker, Grady N., Hutchison
Coldsmith, Donald C., Emporia
Cole, Ward M., Wellington
*Coleman, Gary W., Wichita
Coleman, Thomas J., Wichita
Colip, Floyd M., Norton
*Collier, Harold W., Wichita
Collier, William J., McPherson
Collins, Dean T., Topeka
Collins, Francis T., Topeka
Combs, G. Ralph, Leavenworth
Combs, Peter S., Leavenworth
Conrad, Clair C., Dodge City
Conrad, Richard F., Emporia
Concepcion, Eugenio S., Jr., Wichita
Conklin, Kenneth E., Abilene
Connelly, John C., Topeka
*Connolly, Maurice R., Wichita
Conroy, Robert W., Topeka
Cook, D. Ray, Wichita
Cook, G. Edward, Wichita
Cook, James D., Kansas City, Kan.
Coomer, Tyler E., Pittsburg
Cooper, Arthur E., Norton
Cooper, Jack R., Shawnee Mission
Cooper, Leo F., Kansas City, Kan.
Copeland, Gary A., Junction City
Copening, Tell B., Great Bend
Corbin, Murray D., Shawnee Mission
Corder, Robert L., Highland
Cornely, John F., Osborne
Corrigan, George F., Wichita
Cossman, F. Price, Wichita
Cotton, Robert T., Topeka
Couch, James R., Jr., Kansas City, Kan.
Coulter, Henry F., Mission
Coulter, Thomas B., Kansas City, Mo.
Covert, Thomas I., Salina
Cowles, George E., Wichita
Cowles, Gordon T., Wichita
Cox, Ira, Jr., Shawnee Mission
Cox, Ira L., III, Kansas City, Kan.
Cox, Wallace F., Kansas City, Kan.
Coyle, John F., Coffeyville
Craig, Charles C., Kansas City, Kan.
Cram, Ernest R., St. Francis
Cram, Ole R., Jr., Larned
Cramer, Guy W., Parsons
Cramm, Russell E., Hays
Crane, C. Herbert, Manhattan
Crary, John E., Topeka
Crawford, Robert A., Hutchinson
Crist, Robert D., Kansas City, Kan.
Crockett, Charles A., Kansas City, Kan.
Cronemeyer, Richard L., Kansas City, Mo.
Cronin, Donald J., Wichita
Cross, Donald E., Kansas City, Mo.
Crouch, Steven W., Kansas City, Mo.
Crouch, William H., Topeka
Crow, Ernest W., Wichita
Crowley, Edward X., Wichita
Cudnik, Daniel B., Winfield
Culp, Louis M., Kansas City, Kan.
Cultron, Frank T., Salina
Culver, Warren T., Lawrence
Cummings, Richard J., Wichita
Curran, Kevin E., Shawnee Mission

D

Daehnke, Sigurd S., Winfield
Dahl, Asher W., Colby
Daniels, Robert M., Valley Center
Darr, Richard B., Kansas City, Kan.
Daugherty, Robert M., Meade
Dave, Naresh B., Overland Park
Davenport, Sidney S., Wichita
Davidson, Harry T., Wichita
Davis, Christopher G., Kansas City, Kan.
Davis, David H., Larned
Davis, David R., Emporia
Davis, George R., Ellsworth
Davis, James W., Jr., Kansas City, Kan.
Davis, Ronald B., Wichita
Day, Hughes W., Kansas City, Kan.
Dean, David B., Topeka
DeBakker, Jan B., Wichita
DeBriere, Sidney L., Parsons
DeChairo, Thomas, Westmoreland
Decker, Donald D., Halstead
*Deckert, Rosalie E., Wichita
Degner, James B., Great Bend
DeHaan, Charles, Del Mar, Calif.
Deitz, Michael R., Kansas City, Kan.
DeJong, David C., Wichita
de la Torre, Jorge, Topeka
Delgado, Sergio T., Topeka
Dellett, Kenneth B., El Dorado
Delp, Mahlon H., Kansas City, Kan.
Delphia, Robert E., Olathe
DeMott, Wayne R., Shawnee Mission
Denison, Terry R., Mission
Denner, Joseph L., Kansas City, Kan.
Depenbusch, Francis L., Hutchison
Depoe, Joseph H., Winfield
Derrington, Kenneth L., Shawnee Mission
DeTar, George F., Iola
Diacon, James L., Wellington
Dick, Arthur R., Kansas City, Kan.
Dick, Henry J., Chanute
Dickerson, Robert M., Garden City
Dickerson, Shelby C., Kansas City, Kan.
Dickinson, Charles R., Coffeyville
Diederich, Dennis A., Kansas City, Kan.
Diehl, Antoni M., Kansas City, Kan.
Diener, Clayton H., Hesston
Dietrich, Frederick G., Topeka
Dillenbeck, Floyd E., Sun City, Arizona
Diver, Robert W., Coffeyville
Dlabal, Frank A., Wilson
Doak, Roger S., Dodge City
Dobratz, Robert A., Beloit
Dockhorn, Robert J., Prairie Village
Dodson, William W., Ulysses
Doherty, William R., Shawnee Mission
Donahoe, Dorval H., Meade
Donley, James L., Wichita
Donnell, James M., Wichita
*Doornbos, J. Fred, Wichita
Doubek, Herbert D., Belleville
Dougherty, Thomas M., Garnett
Douthit, John D., Manhattan
Dowell, James C., Salina
Dozier, Fred S., Herington
Draemel, Harry R., Salina
Drake, Douglas J., Beloit
Drake, Ralph L., Wichita
Dreher, Henry S., Salina
Drevets, Curtis C., Wichita
Duckett, Thomas G., II, Shawnee Mission
Duckett, Thomas G., Hiawatha
Dudding, Burton A., Kansas City, Kan.
Duerksen, Joseph J., Overland Park
Dujovne, Carlos A., Kansas City, Kan.
Dunagin, Jack A., Topeka
Dunlap, Richard L., Lawrence
Dunn, Marvin I., Kansas City, Kan.
Dunshee, Carlyle M., Ft. Scott
Durano, Antonio C., Wichita
Durkee, William R., Manhattan
Durst, Robert D., Jr., Topeka
Duysak, Sami, Leavenworth
Dyck, Arthur H., McPherson
Dyck, Cora E., Wichita
Dyck, George, Wichita
Dysart, Jack C., Sterling

E

Eaton, Glen E., Salina
Eaton, Leslie F., Salina
Ebbesson, Berno S. E., Wichita
Eckart, DeMerle E., Hutchinson
Eckert, William G., Wichita
Eddy, Murray C., Hays
Eddy, Victory M., Hays
Edwards, Manis C., Wichita
Egea, Fernando M., Kansas City, Kan.
Egelhof, Richard H., Wichita
Eichhorn, Frank D., Garden City
Eidt, David W., Olathe
Elder, Douglas M., Topeka
Elliott, Howard R., Pittsburg
Ellis, Harvey R., Wichita
Ellis, Stephen S., Coffeyville
Ellison, Paul D., Salina
Elnen, Walter T., Wichita
*Elneser, Rafael, Wichita
Emery, Frank A., Wichita
Empson, Charles L., Independence
Enberg, Robert N., Hays
Enders, Wray, Lenexa
Enns, Eugene K., Newton
Enns, James H., Newton
Ens, G. George, Hillsboro
Ens, Peter D., Hillsboro
Ensey, T. Cranford, Marion
Erickson, Clarence W., Pittsburg
Erken, Ronald V., Wichita
Esch, John G., Pittsburg
Esrig, Harold L., D.O., Leawood
Etzenhouser, Russell D., Shawnee Mission
Evans, Darrel L., Manhattan
Evans, Farris D., Wcihita
Evans, Grant E., Wichita
Evans, William E., Shawnee Mission
Evans, William R., Great Bend
Ewing, Thomas D., Larned

F

Fainstat, Theodore, Kansas City, Kan.
Fairchild, John A., Manhattan
Falter, Richard T., Hutchinson
Farha, George J., Wichita
Farha, S. Jim, Wichita
Farrell, Dennis H., Topeka
Farrell, George E., Germantown, Tenn.
Fast, W. Spencer, Atchison
Feagan, Jerry H., Topeka
Feighny, Robert E., Salina
Felt, Samuel E., Shawnee Mission
Fender, Thomas H., Wichita
Fent, Lee S., Newton
Fenton, Robert M., Garden City
Fernandez, Luis A., Topeka
Fernie, Robert W., Hutchinson
Ferrell, Donald P., West Germany
*Ferris, Bruce G., Wichita
Field, Richard A., Topeka
Fieldman, E. Jay, Wichita
Fields, Galen W., Scott City
Fieser, Carl W., Great Bend
Filbert, Charles G., Great Bend
Filley, Vernon W., Pratt
Fillman, Eldon M., Topeka
Fink, A. Arthur, Topeka
Finley, Dennis R., Wichita
Firkins, Richard T., Wichita
Fischer, Rex R., Manhattan
Fisher, James B., Wichita
Fitzgerald, Edward J., Wichita
Fitzgerald, Edward L., Lilburn, Georgia
Fitzpatrick, M. Robert, Kansas City, Kan.
Fixley, Mark S., Overland Park
Flanders, H. Alden, Hays
Fleckenstein, Charles S., Onaga
*Fleming, Forney W., Wichita
Fleming, Peter D., Los Gatos, Calif.
Floersch, Hubert M., Kansas City, Kan.
*Flowe, Robert F., Topeka
Flowers, Clell B., Wichita
Flowers, Marshall B., Anthony
Ford, Charles R., Wichita
Ford, Fred L., Topeka
Forester, N. Preston, Kansas City
Foret, John D., Kansas City, Kan.
*Forker, Alan D., Wichita
Fortune, Cedric B., Olathe
Foster, Charles G., Topeka
Foster, D. Bernard, Topeka
Foster, Frances M., Kansas City, Kan.
Fowler, James T., Osawatomie
Fowler, Robert J., Wichita
Fowler, Wayne L., Concordia
Fox, Howard A., Kansas City, Kan.
Francis, Norton L., Wichita
Francisco, Clarence L., Kansas City, Kan.
Fransen, Herbert, Newton
Fransen, Paul H., Newton
Franz, Robert G., Hillsboro
Frederick, Mac F., Hugoton
Fredrickson, Duane E., Lindsborg
Freeborn. Warren S., Clyde
Freeman, F. Giles, Pratt
Freeman, Fred A., Manhattan
Freeman, Raymond S., Salina
Fretz, William D., Ashland
Friesen, Florence C., Hesston
Friesen, Orlando J., Buhler
Friesen, Stanley R., Kansas City, Kan.
Friggeri, Robert W., Girard
Fritz, George E., Wichita
Fritzemeier, William H., Wichita
Fromm, Arthur H., Wichita
Fry, Luther L., Dodge City
Fuller, Deryl D., Lindsborg
Fulton, John K., Wichita
Funes, Carlos A., Emporia
Funk, Edward D., Linwood

G

Gabatin, Angelita S., APO San Francisco, Calif.
Gabatin, José Q., APO San Francisco, Calif.
*Galichia, Joseph P., Wichita
Gallehugh, Keith W., Kansas City, Kan.
Galvan, Alonso, Wichita
Gann, E. Lamonte, Emporia
Gans, Frederick A., Salina
Ganzarain, Ramon C., Topeka
Garcia, Francisco M., Overland Park
Garcia, Gould C., Emporia
Gardner, Glenn M., Shawnee Mission
Garfinkle, Lester S., Wichita
Garth, Karen E., Kansas City, Kan.
Garza, A. Cesar, Topeka
Gay, John D., Topeka
Gehrt, Earl B., Chanute
Geitz, James M., Emporia
Gelvin, E. Raymond, Concordia
Gench, Raymond L., Carmel, Calif.
Gendel, Evalyn S., Topeka
Gendel, Joseph, Topeka
Gentry, Kale C., Overland Park
George, Earl F., Wichita
George, M. Don, Wichita
Gerber, Harry A., Leavenworth
Gerjarusak, Prapas, Leavenworth
Gessler, Donald J., Wichita
Gettler, Dean T., Ft. Scott
Gilbert, J. Howard, Seneca
Gilbert, Roberta M., Prairie Village
Gilhousen, Frederic M., Kansas City, Kan.
Gill, Bruce D., Shawnee Mission
Gill, George L., Lampe, Mo.
Gillen, Billy A., Prairie Village
Gilles, Helen M., Lawrence
Gilliland, James O., Herington
Gilmore, Clarence A., Kansas City, Kan.
Ginavan, Duane A., Emporia
Girod, Charles I., El Dorado
Givner, David, Wichita
Glazzard, Charles D., Olathe
Gleason, Jimmie A., Topeka
Glenn, James N., Emporia
Glenn, Lyle G., Protection
Glover, Richard M., Newton
Gloyne, Howard F., Shawnee Mission
Gnau, Frederic B., Halstead
Godfrey, Robert G., Kansas City, Kan.
Godfrey, William A., Kansas City, Kan.
Godwin, Phillip A., Lawrence
Goering, Donald D., Salina
Goering, Emil L., Topeka
Goering, Robert C., Wichita
Goertz, Leo R., Kansas City, Kan.
*Gohil, Mahendra N., Wichita
Goldberg, Herbert R., Wichita
Goldstein, Nathan, III, Kansas City, Kan.
Gollerkeri, Mohan P., Kansas City, Kan.
Gollier, Robert A., Ottawa
Gollier, Robert A., II, Ottawa
Gomel, Ray G., Washington
Gomez, Francisco, Shawnee Mission
Gomez, Modesto S., Pittsburg
*Gonzalez, Francisco, Wichita
Gonzalez, Giomar, Kansas City, Kan.
Gonzalez, Hiram, Wichita
Good, James T., Ft. Scott
Good, Wendell L., Overland Park
*Goodpasture, Hewitt C., Wichita
Goodpasture, W. Carter, Hutchinson
Gootee, Joseph E., Topeka
Gough, James D., Phoenix, Ariz.
Gouldner, Rene M., Wichita
*Goyle, Krishan K., Wichita
*Goyle, Vimal, Wichita
Gradinger, Billens C., Halstead
Grady, Kenneth L., Prairie Village
Graham, Charles P., Topeka
Graham, J. Malcolm, Leavenworth
Graham, Kenneth L., Leavenworth
Graham, Thomas W., Leavenworth
Grantham, Jared J., Kansas City, Kan.
Grauel, Charles W., Wichita
Grauel, Truman W., Wichita
Graves, Jack W., Wichita
Gray, C. Lucien, Wichita
Gray, David E., Topeka
Gray, H. Thomas, Wichita
Grayib, Antoine S., Topeka
Grayson, Roy D., Overland Park
Green, Lawrence C., Arkansas City
Green, Phillip E., Topeka
Greenberg, M. Taylor, Prairie Village
Greenberger, Norton J., Kansas City, Kan.
Greenburg, George, Garden City
Greene, Horace T., Topeka
Greenwood, Elwood D., Topeka
Greenwood, James F., Ulysses
Greer, Richard H., Topeka
Gregory, Arlene, Pittsburg
Gribble, Robert N., Wichita
Griffin, Somsri, Prairie Village
Grigsby, George T., Jr., Topeka
Grigsby, Kenneth R., Sun City, Ariz.
Grillot, Floyd B., Wichita
Grimes, I. Ross, Liberal
Grimes, James T., Lyons
Gripkey, Clarence A., Kansas City, Kan.
Grisolia, Andres, Leavenworth
Griswold, Dale G., Newton
*Grohs, Heinz K., Wichita
Grove, John A., Newton
Grove, John L., Newton
Grove, William E., Newton
Growney, John T., Atchison
Gruendel, Richard A., Kansas City, Kan.
Gruendel, Virgina T., Kansas City, Kan.
*Grund, Frank M., Wichita
Grushnys, Arnold, Wichita
Gsell, George F., Wichita
Guerra, Tomas H., Marion
Gumucio, Mario L., Kansas City, Kan.
Gunn, Marvin R., Salina
Gunter, Carl C., Quinter
Guthrie, Richard A., Wichita

H

Ha, Sang W., Coffeyville
Habersang, Rolf W. O., Kansas City, Kan.
Hadley, Delmont C., Ottawa
Haerle, Henry S., APO, New York
Haffner, William N., Augusta
Hagan, C. Thomas, Wichita
Hagan, Francis J., Wichita
Haigler, James P., Hays
Haines, Chester W., Haven
Haines, Robert A., Topeka
Hale, Ralph, Wichita
Hall, Bernard H., New York, N. Y.
Hall, Clarence W., Hutchinson
Hall, Jerry D., Anthony
Hall, Wesley H., Girard
Halley, M. Martin, Topeka
Halling, L. William, Hays
Halpin, Edward D., Wichita
Halvorson, Howard C., Olathe
Hamilton, James J., WaKeeney
Hamm, Orval L., Sialkot, Pakistan
Hammeke, John C., Leavenworth
Hammel, George W., El Dorado
Hamtil, Lawrence W., Prairie Village
Han, Chan S., Coffeyville
Hancock, Alan C., Kansas City, Kan.
Hanlon, James E., Wichita
Hannah, Hamner, III, Kansas City, Mo.
Hanson, David C., Iola
Hara, Glenn S., Kansas City, Kan.
Hard, Benjamin F., Prairie Village
Hardin, Creighton A., Kansas City, Kan.
Hardman, Dennis A., Grand Island, Neb.
Harms, Albert C., Shawnee Mission
Harms, Edwin M., Wichita
Harms, Wilmer A., Halstead
Harned, Bert W., Shawnee Mission
Harpster, Gene O., Leawood
Harris, Claib B., Garnett
Harris, Frank H., Wichita
Harris, Hubert L., Topeka
Harris, Norman R., Salina
Harris, Norvan D., Liberal
Harris, Patricia A., Topeka
Harrison, Alvie B., Wichita
Harrison, Hall E., Topeka

* Probationary members.

Hart, Dillis L., Wichita
Hart, Lawrence E., Atchison
Hartenbower, Carey A., Salina
Hartley, Fount K., Honolulu, Hawaii
Hartley, Roy W., Norton
Hartman, Charles R., Kansas City, Kan.
Hartman, Gerald V., Kansas City, Kan.
Hartman, Roger L., Norton
Hartocollis, Peter, Topeka
Harvey, Rosemary B., Wichita
*Harvey, Thomas S., Wichita
Harwood, Claude J., Glasco
Hasselle, James E., Topeka
Hastings, Mary T., Shawnee Mission
Haswell, Glenn L., Kansas City
Hathaway, Peter, Kansas City, Kan.
Hatton, Donald W., Lawrence
Hatton, Lloyd W., Salina
Hattrup, Richard J., Wichita
Havenhill, Marshall A., Emporia
Hawkey, Alfred S., Newton
Hawley, Raymond G., Wichita
Hayden, Abigail, Fredonia
Hayes, William L., Wichita
Heard, Kenneth M., Garden City
Heasty, Robert G., Manhattan
Hebbar, Satya N., Topeka
Hedrick, Kenneth E., Hutchinson
Heins, Lawrence G., Abilene
Henderson, Charles F., Parsons
Henderson, John M., Kansas City, Mo.
*Henderson, R. W., McConnell AFB, Kan.
Henneberger, Charles E., Atwood
Henning, Calvin W., Ottawa
Henning, Charles E., Wichita
Hensleigh, Paul A., Kansas City, Kan.
Hensley, Cline D., Wichita
Hered, John, Wichita
Hermann, Charles G., Parsons
Hermes, Richard L., Lawrence
Hermreck, Arlo S., Kansas City, Kan.
Hernandez, Alexander M., Garden City
Herrera, Jorge J., Topeka
Hershorn, Simon E., Wichita
Herzon, Charles D., Shawnee Mission
Hesse, Robert S., Wellington
Hesser, Herbert H., Shawnee Mission
Hiatt, W. Stewart, Prairie Village
Hidaka, Harry T., Wichita
Hiebert, Abraham E., Wichita
Hiebert, David L., Lawrence
Hiebert, John B., Topeka
Hiebert, Peter E., Kansas City, Kan.
Hiesterman, Herman W., Quinter
Higgins, Ronald A., Shawnee Mission
Hildyard, Victor H., II, Colby
Hilgers, Jack E., Hays
Hill, James E., Arkansas City
Hill, John J., Hutchinson
Hill, Phillip K., Newton
Hill, Richard H., Meade
*Hill, Robert N., Topeka
Hinkle, David O., Topeka
Hinshaw, Alfred H., Wichita
Hinshaw, Charles T., Wichita
Hinshaw, Charles T., Jr., Hutchinson
Hinshaw, Edgar D., Arkansas City
Hinthorn, Daniel R., Kansas City, Kan.
Hiratzka, Tomiharu, Wichita
Hird, Wayne E., Lawrence
Hirsch, Martin S., Bellevue, Nebr.
Hirschberg, J. Cotter, Topeka
*Hizon, Ramon R., Wichita
Hobart, Wilson K., Topeka
Hobbs, Donald D., Topeka
Hobson, Milburn W., Shawnee Mission
Hodes, Herbert C., Hutchinson
Hodges, Bruce P., Lenexa
Hodges, Glenn R., Kansas City, Kan.
Hodges, Merle A., Salina
Hodson, Hervey R., Wichita
Hofer, DeWayne D., Concordia
Hoffer, John G., Medicine Lodge
Holbert, Leland L., Kansas City, Kan.
Holcomb, Donald G., Los Angeles, Calif.
Holcomb, William M., Liberal
Holdcraft, Jacquelyne, Kansas City, Kan.
Holden, Raymond F., Wichita
Holderman, Wallace D., Hutchinson
Holladay, Harmon M., Wichita
Holladay, Kenneth R., Eudora
Holleman, James F., Jr., D.O., Kansas City, Kan.
Hollowell, Joseph G., Jr., Kansas City, Kan.
Holman, Jon B., Salina
Holman, Melvin V., Olathe
Holmes, Frederick F., Kansas City, Kan.
Holmes, Grace E., Kansas City, Kan.

* Probationary members.

Holsinger, Donald M., Pittsburg
Holt, John M., Great Bend
Holt, Robert G., Halstead
Hoofer, Wilford D., Halstead
Hoogstraten, Barth, Kansas City, Kan.
Hopke, Harold L., Sedro Woolley, Wash.
Hopkins, B. Morris, Scott City
Hopkins, Lenly T., Overland Park
Hopkins, William O., Overland Park
Hopper, Charles R., Emporia
Horbelt, Douglas V., Wichita
Horne, James B., Topeka
Horseman, Robert F., Shawnee Mission
Hostetler, George M., Harper
Hostetter, Philip H., Manhattan
Howard, Donald O., Wichita
Howell, J. Allen, Wellington
Howerter, Bernard E., Jr., Coffeyville
Hoyle, Winthrop E., Winfield
Hoyt, Arthur W., Topeka
Hsu, Cheng H., Topeka
Huaman, Antonio, Topeka
Hubler, David, Wichita
Hudson, James R., Chanute
Hudson, Robert P., Kansas City, Kan.
Huebert, Dean A., Wichita
Huerter, Quentin C., Kansas City, Kan.
Huff, John D., Kansas City, Kan.
Huffman, David H., Kansas City, Mo.
Hughes, Robert W., Lawrence
Hull, Kenneth, Wichita
Hull, Norman E., Hays
Hultgren, Myron K., Wichita
Hume, Joseph W., Wichita
Hummer, Lloyd M., Wichita
Humphrey, Loren J., Kansas City, Kan.
Hunnicutt, Cecil C., Sabetha
Hunsberger, Terry, D.O., Garden City
Hunter, James S., Manhattan
Hurst, Thomas C., Wichita
Hurwitz, Aryeh, Kansas City, Kan.
Huse, Robert J., Mesquite, Tex.
Hustead, Robert F., Wichita
Huston, Francis W., Winchester
Huston, Joseph W., Topeka
Hutchison, Glen C., Hays
Hutton, Frederick A., Topeka
Huycke, M. Maureen, Kansas City, Kan.
Hwa, Eugene E., Newton
Hyde, Marshall E., Ft. Smith, Ark.
Hyndman, H. Harold, Wichita
Hynes, Henry E., Wichita

I

Ibarra, J. Luis, Wichita
Ibarra, Richard C., Kansas City, Kan.
Ingham, H. Laird, Lawrence
Ingram, John E., Kansas City, Kan.
Innes, Robert C., Kansas City, Kan.
Irby, Addison C., Ft. Scott
Irby, Pratt, Ft. Scott
Isaac, Charles A. Newton
Isenberger, Robert M., Kansas City, Mo.
Iturralde, George, Prairie Village

J

Jackman, Glenn H., Estes Park, Colo.
Jacks, J. Warren, Pratt
Jackson, Charles R., Wichita
Jackson, Delmas A., Jr., Salina
Jackson, Linda H., Topeka
Jackson, Victor L., Altamont
Jacobs, David S., Kansas City, Kan.
Jacobs, Rae R., Kansas City, Kan.
Jacoby, Robert E., II, Topeka
Jahanian, Daryoush, Kansas City, Kan.
Jambor, James J., Dodge City
*James, Vernon L., Wichita
Janssen, Erwin T., Topeka
Jansen, Herman F., Hillsboro
Jarrott, John B., Hutchinson
Jayaram, Marandapaui R., Kansas City, Kan.
*Jazayerli, Nabil, Wichita
Jehan, Sayed S., Wichita
Jenkins, Neal M., Salina
Jenney, Charles B., Wichita
Jewell, Ross L., Coffeyville
Jewell, William R., Kansas City, Kan.
Jiongco-Aves, Agnes M., Parsons
Johns, Leo E., Jr., Kansas City, Mo.
Johnson, Edgar W., Jr., Lee's Summit, Mo.
Johnson, Frederick E., Topeka
Johnson, Howell D., Dodge City
Johnson, John E., Kansas City, Kan.
Johnson, J. Richard, McPherson
Johnson, Joseph H., El Dorado
*Johnson, Lee R. W., Topeka
Johnson, Paul D., Leavenworth
Johnson, Thomas E., Wichita
Jones, Charles E., Shawnee Mission
Jones, Clifford E., Wichita
Jones, Edward L., Great Bend
Jones, Forrest H., Columbus
Jones, Herman H., Kansas City, Kan.
Jones, H. Ivor, Prairie Village
Jones, H. Penfield, Lawrence
Jones, Sam, Hutchinson
Jorg, Helen H., Shawnee Mission
Joseph, Howard F., Lawrence
Joss, Charles S., Topeka
Joyce, G. Bernard, Topeka
Jubelt, Hilbert P., Manhatton
Jumper, Jerry L., D.O. Garden City
Justus, William J., Pleasanton

K

*Kadison, Herbert I., Wichita
Kaelson, Paul A., Wichita
Kagan, Stuart M., Shawnee Mission
Kalavsky, Steven M., Kansas City, Kan.
Kalbac, Richard W., Garden City
Kaldor, Richard H., Manhattan
Kalivas, James T., Kansas City, Kan.
Kane, William M., Hays
Kardatzke, Elmer S., Wichita
Kardatzke, Jon K., Wichita
Karnaze, Greg C., Kansas City, Kan.
Kasha, Robert L., Wichita
Kassebaum, Glen E., El Dorado
*Kassebaum, Kenneth G., Wichita
Kassel, Henry W., Lakewood, Colo.
Katz, Jerome B., Topeka
Kauffman, Gerald G., Topeka
Kauffman, Ralph E., Kansas City, Kan.
Kaufman, Eugene E., Wichita
Kaufman, Leland K., Wichita
Kaufman, Willard E., Moundridge
Kaul, Anand N., Winfield
Kavel, Karl K., Topeka
Keene, George H., Wichita
Keeny, Maurice G., Wichita
Keil, James E., Osawatomie
Keitges, Pierre W., Kansas City, Kan.
Kelly, Charles R., Kansas City, Kan.
Kelly, Dan A., Topeka
Kelly, Robert H., Wichita
Kempthorne, Charles R., Manhattan
Kendall, Tommy E., Wichita
Kendrick, J. Gilleran, Wichita
Kennedy, Gerald T., Wichita
Kennedy, Howard U., Topeka
Kennedy, James A., Kansas City, Kan.
Kennedy, Kenneth R., Lenexa
Kepes, John J., Kansas City, Kan.
Kerby, Gerald R., Kansas City, Kan.
Kerr, Lambert A., Colorado Spgs., Colo.
Ketchum, Lynn D., Kansas City, Kan.
Keys, Robert C., Jr., Topeka
Keys, Robert C., Sr., Winchester
Khicha, Gyanchand J., Wichita
*Khoury, George H., Wichita
Khurana, Satish K., Shawnee Mission
Kihm, Albert A., Chanute
Kim, Jong M., Kansas City, Kan.
*Kim, Paik N., Wichita
Kim, Yong W., Topeka
Kimball, Richard R., Mankato
Kimbrough, Victoria F., Lawrence
*Kimmich, Homer M., Wichita
Kinding, Paul H., Topeka
King, Charles R., Kansas City, Kan.
King, William T., Great Bend
Kinnan, Leon F., Caldwell
Kirby, Merlin G., Great Bend
Kirchner, Fernando R., Kansas City, Kan.
Kirk, Earl D., Jr., Wichita
Kirkegaard, Rodger S., Topeka
Kiser, John L., Wichita
Kiser, Willard J., Wichita
Kishore, Pulla R. S., Kansas City, Kan.
Kitchen, Robert R., Wichita
Klassen, Daniel S., Newton
*Klaus, Hanna, Wichita
Klemme, Herbert L., Stillwater, Minn.
Klemmer, Herbert, Topeka
Klenda, Martin B., Jr., Beloit
Kliewer, Vernon L., Newton
Klinger, Eugene A., Jr., Manhattan
Klotz, Arthur P., Sun City, Ariz.
Knapp, Leslie E., Wichita
Knapp, M. Robert, Wichita
Knappenberger, Roy C., Wichita
Knecht, Stephen M., Emporia
Kneidel, Thomas W., Wichita
Knuth, Kenneth L., Independence
Kobler, Carl D., Hill City

Kodanaz, A. Aytekin, Shawnee Mission
Koeneke, Irene A., Halstead
Koons, Jess W., Liberal
Kosar, Clarence D., Concordia
Kouri, Sammy H., Wichita
Kovarik, Ernest D., Topeka
Kowalski, Anthony M., Topeka
Kozikowski, Ben M., Prairie Village
Krake, Alfred E., McRoberts, Ky.
Krantz, Kermit E., Kansas City, Kan.
Krause, Roland L., Wichita
Kroll, Harry G., Topeka
Krueger, Alan L., Lenexa
Krueger, Haven C., Great Bend
Kubin, Doris, Shawnee Mission
Kullman, Frederick M., Louisburg
Kurth, C. Joseph, Wichita
Kurth, Robert H., Shawnee Mission
Kutilek, Frank J., Wichita
Kwee, Sioe T., Kansas City, Kan.
Kyner, Joseph L., Kansas City, Kan.

L

Labhsetwar, S. A., Junction City
Lacoursiere, Roy B., Topeka
Lafene, Benjamin W., Manhattan
Laham, Alexander J., Wichita
Laing, Robert R., Kansas City, Kan.
Laird, Dale D., Olathe
Lake, Max S., Salina
Lambright, Robert L., Shawnee Mission
Lance, John F., Jr., Wichita
Lance, Raymond W., Arma
Lansky, Lester L., Kansas City, Kan.
Lansky, Shirley B., Kansas City, Kan.
Lapi, Ruth, Shawnee Mission
Larson, Delbert L., Hiawatha
Lasley, David A., Salina
Latimer, Lester A., Great Bend
Laury, David G., Ottawa
Law, Findlev, Ellinwood
Lawless, Harold L., Blue Rapids
Lawn, Raymond A., Wichita
Laws, Lewis R., Maryville
Lawson, Dwight, Topeka
Lawson, Robert C., Topeka
Lawton, Marvin K., Concordia
Laybourne, Paul C., Jr., Kansas City, Kan.
Lazar, Harry, Wichita
Leake, Hunter C., III, Kansas City, Kan.
Learned, George R., Lawrence
Lee, Edward S., Jr., Wichita
Lee, Jae M., Overland Park
Lee, James, Jr., Kansas City, Kan.
Lee, Kyo Rak, Kansas City, Kan.
Lee, R. Rex, Wichita
Lee, Song-Dow, Topeka
Lee, Song P., Topeka
Leffler, Paul B., Pittsburg
Legaspi, Pedro L., Jr., Leawood
Leger, Lee H., Ft. Myers, Fla.
Leigh, Lawrence E., Shawnee Mission
Leisy, Jerald W., Wichita
Leitch, David A., Garnett
Lemoine, Albert N., Jr., Kansas City, Kan.
LeNeve, Robert T., Hugoton
Lenski, Frank X., Jr., Iola
Lentz, William R., Topeka
Lessenden, Chester M., Jr., Topeka
Lessenden, Glenn A., Lawrence
Lettner, Hans T., Hutchinson
Levy, Edwin Z., Topeka
Lewin, Walter, Prairie Village
Lewis, Harvey D., Jr., Kansas City, Mo.
Lewis, James E., Shawnee Mission
Lies, Barthel, Colwich
*Lies, James E., Wichita
Liggett, Byron T., Great Bend
Lin, Joe J., Wichita
*Lin, Tung Kuang, Wichita
Lindley, Milton E., Wichita
Lindsley, Carol B., Kansas City, Kan.
Lindsley, Herbert B., Kansas City, Kan.
Linhardt, Ronald D., Wichita
Linshaw, Michael A., Kansas City, Kan.
Lipschitz, David A., Kansas City, Kan.
Lipsey, James H., Shawnee Mission
Little, L. Gilbert, Wichita
Liu, Chien, Kansas City, Kan.
Liujuluschan, Rit, Oswego
Livingston, Charles E., Salina
Lloyd, Harvey L., Kansas City, Kan.
Lockhart, Joseph G., Wichita
Loeffler, James A., Wichita
Loewen, Henry H., Wichita
Loewen, Peter S., Hillsboro
Loewen, William C., Wichita
Lofgreen, Victor J., Ottawa
Logan, Geoffrey G., Wichita
Loganbill, Varden J., Moundridge
Lohmeyer, Kenneth L., Emporia
Long, Edward E., Humboldt
Long, Robert C., Norton
Longwood, Orlin W., Tucson, Ariz.
Lorentzen, Donald E., Newton
Lotito, Carlos A., Prairie Village
Lovett, Paul A., Wichita
Lovett, Rodney C., Prairie Village
Low, Harold L., Wichita
Low, Joseph H., Coffeyville
Lowe, Bruce A., Overland Park
Lowe, DeWitt S., Hiawatha
Lowe, Stanley W., Manhattan
Lowman, James T., Kansas City, Kan.
Lowry, Ray F., El Dorado
Luedtke, Walter E., Emporia
Lueken, Lueke B., Wichita
Luellen, Thomas J., Wichita
Lukens, David, Hutchinson
Lukert, Barbara P., Kansas City, Kan.
Lumb, Raymond C., Topeka
Lungstrum, Jack E., Salina
Luzzati, Enzo F., Wichita
Lynch, John A., Topeka
Lyons, Dave J., Pittsburg

M

Ma, Frank H., Kansas City, Mo.
Mabunda, Guilherme A., Spearville
Mace, Ronald D., Junction City
MacKillop, Daniel, Jr., Winfield
MacLeod, Sherburne, Wichita
Macy, Norman E., Salina
Macy, Ted L., Garden City
Madden, William J., Lincoln
Maddux, Bill D., Kansas City, Kan.
Madison, Ward N., Jr., Wichita
Madison, Willard A., Nortonville
Madsen, Glenn, Lawrence
Malone, Eugene M., Halstead
Manahan, G. Eugene, Lawrence
Manelis, Joseph, Overland Park
Mangum, Wm. Barton, Kansas City, Kan.
Mani, M. Mani, Kansas City, Kan.
Manley, Joseph W., Kansas City, Kan.
*Mansour, Badie S., Wichita
Mantz, Frank A., Kansas City, Kan.
Marchbanks, Donald L., Salina
Marsh, Harry H., III, Wichita
Marsh, Henry O., Wichita
Marshall, Bromell M., Topeka
Marshall, George D., Colby
Marshall, Ronald L., Manhattan
Martin, Albert E., Jr., Coffeyville
Martin, Daniel C., Shawnee Mission
Martin, Earl A., Parsons
Martin, Glen E., Wichita
Martin, Normal L., Kansas City, Kan.
Martin, Oliver L., Salina
Martin, William O., Topeka
Marvin, Norman G., Kansas City, Kan.
Marymont, Jesse H., Wichita
Maser, George R., Mission
Masters, Francis W., Kansas City, Kan.
Mastio, George J., Wichita
Matassarin, Benjamin M., Wichita
Matassarin, Frederick W., Wichita
Mathewson, Hugh S., Kansas City
Mathis, Jerry L., Salina
Matthew, William L., Olathe
Mattick, Irvin H., Hays
Mattioli, Leone, Kansas City, Kan.
Mau, Walter, Topeka
Mauck, Harold C., Stockton
Maxfield, Russell J., Garden City
Maxwell, Gordon E., Salina
May, Kenneth L., Bonner Springs
McAllaster, Wendale E., Great Bend
McCann, Patrick E., Ft. Scott
McCann, William, Olathe
McCarter, Duane K., Topeka
McCarthy, Robert P., Kansas City, Kan.
McCaughey, Hugh W., Shawnee Mission
McClanahan, Ward A., Wichita
McClellan, Ernest L., Wichita
McClellan, John W., Topeka
McClintock, Edward A., Topeka
McClure, James A., Topeka
McComas, Marmaduke D., Jr., Concordia
McConnell, Archie B., Burlington
McCormick, Eugene C., Wellington
McCoy, Charles P., Wichita
McCoy, Charles T., Hutchinson
McCoy, Ronald, Dodge City
McCrae, Spencer C., Salina
McCreight, Eugene J., New Mexico
McCusker, Kevin T., Kansas City, Kan.
McDougal, Barbara A., Chickasha, Okla.
McEachen, William H., Shawnee Mission
McElhinney, Charles F., Dodge City
McElroy, Robert T., Topeka
McElroy, Wilbur J., Ethiopia
McFadden, Roger R., Salina
McGovern, James L., Wellington
McGuire, William F., Wichita
McGurk, Thomas E., Overland Park
McIlvain, Guy B., Clay Center
McKee, Dick B., Pittsburg
McKee, Leo F., Cottonwood Falls
McKee, Michael B., Wichita
McKee, Richard S., Leavenworth
McKenna, Michael J., Fort Scott
McKerracher, Robert D., Derby
McKim, W. Lynn, Kinsley
McKnight, David E., Manhattan
McKnight, Ellis B., Alma
McLain, Kenneth, Ransom
McMullen, Joseph E., Hutchinson
McNeil, Elbert D., Manhattan
McNutt, Theodore L., Pleasanton
McSwain, Norman E., Jr., Kansas City, Kan.
McVay, R. Bruce, Clay Center
McWherter, Lottie B., Shawnee Mission
Mebed, Ali A. K., Topeka
Mebust, Winston K., Kansas City, Kan.
Medearis, Donald N., Kansas City, Kan.
Medina, Anibal, Hays
Mee, Adrian W., Olathe
Meek, George C., Arkansas City
Meek, Joseph C., Kansas City, Kan.
Meeker, Bruce P., II, Wichita
Megaffin, Bernard B., Wichita
*Meqibow, Alan D., Topeka
Mehaffy, Orville A., Baxter Springs
Mehrhof, Edward G., Topeka
Meidinger, Ray, Hiawatha
Meidinger, Richard, Topeka
Mekis, John, Cherryvale
Melendres, Juanito M., Shawnee Mission
Melia, Bernard J., Jr., Prairie Village
*Meller, Donald R., Wichita
Melton, Ralph R., Marion
Menaker, Jerome S., Wichita
*Mendiones, Marlene L., Wichita
Mendoza, Ramon A., Miami, Fla.
Menehan, H. James, Wichita
Menendez, Jose O., Overland Park
Menez, Cesar V., Prairie Village
Menking, F. W. Manfred, Wichita
Menninger, Karl A., Topeka
Menninger, Robert G., Topeka
Menninger, Ray W., Topeka
Menninger, W. Walter, Topeka
Mercer, James B., Lenexa
Meredith, W. Tom, Wichita
Merkel, Earl D., Russell
Merritt, Joe P., Wichita
Merritt, W. Henry, Leavenworth
Mershon, H. Ruth, Hutchinson
Mershon, James C., Wichita
Mesina, Rolando R., Kansas City, Kan.
Meulbroek, Harvey J., Wichita
Meyer, Warren E., Wichita
Michaelbach, Albert P., Wichita
Miguelino, Oliver M., Emporia
Mih, Alexander W. S., Humboldt
Miles, Anthony W., Wichita
Miles, Robert W., Wichita
Miller, Abraham H., Manhattan
Miller, Charles H., Parsons
Miller, Clyde W., Douglas
Miller, Dean M., Parsons
Miller, Don E., Wichita
Miller, Earl E., Pittsburg
Miller, Elden V., Salina
Miller, Franklin R., Winfield
Miller, Herbert C., Kansas City, Kan.
Miller, M. Kirk, Topeka
Miller, Monte B. (In Service)
Mills, Charles D., Wichita
Mills, George Q., Wichita
Mills, Philip E., Jr., Topeka
Mimoso, Jose J., Dodge City
Minnick, Charles V., Junction City
Mirza, Medo, Wichita
Mitchell, Alexander C., New Orleans, La.
Mitchell, John C., Salina
*Mittleman, Frederick S., Topeka
Mitts, Ernest W., Bonner Springs
Modlin, Herbert C., Topeka
Moe, Frederick H., Hutchinson
Moeller, Donald D., Kansas City, Kan.

* Probationary members.

Moffat, Robert E., Kansas City, Kan.
Mohler, Jack M., Abilene
Mollohan, Morgan L., Longville, Minn.
Montgomery, Thomas A., Sabetha
Montgomery-Short, Ruth, Halstead
Moore, Chester E., Gardner
Moore, Dennis F., Wichita
Moore, Robert, Hoisington
Moore, Robert F., Caney
Moore, Wayne V., Kansas City, Kan.
Moorbead, F. Allen, Neodesha
Moorman, Victor R., Hutchinson
Morantz, Robert A., Kansas City, Kan.
Morcos, Abdelmalak E., Shawnee Mission
Moreland, Donald G., Tyler, Texas
Morffi, Raul R., Kansas City, Kan.
Morgan, Candice A., Kansas City, Kan.
*Morgan, Dick A., Wichita
Morgan, James I., Wichita
Morgan, John L., Emporia
Morgan, Louis S., Wichita
Morgan, Nova L., Haysville
Morris, Merle D., Topeka
Morrison, David E., Jr., Topeka
Morrison, Ira R., Atchison
Morrison, Richard A., Kansas City, Kan.
Morrison, Richard L., Wichita
Morrow, J. Tarlton, Topeka
Morrow, Thomas F., Wichita
Morton, John E., Halstead
Morton, Roscoe F., Arkansas City
Moseley, Jack E., Wichita
Moser, Ernest C., Holton
Moser, M. Ross, Holton
Moser, Roy H., Holton
Mosier, Stanley J., Wichita
Mowery, William E., Salina
Mowry, Gerald L., Manhattan
Moy, James T., Wicbita
Moyer, Herman J., Derby
Moyer, John D., Topeka
Muceno, Dar, Topeka
Muehlberger, James J., Prairie Village
Mueller, Arnold V., Topeka
Mueller, J. Kent, Sbawnee Mission
Mueller, Vernette A., Wichita
Mull, John C., Hutchinson
Mullen, Clifford J., Kansas City, Kan.
Mullen, Clifford J., Jr., Kansas City, Kan.
Muller, Samuel B., Pittsburg
Murfitt, Malcolm C., Lindsborg
*Murphy, Barry L., Wichita
Murphy, Duane A., Wichita
Murphy, Paul M., Wichita
Myers, Earl B., Jr., Independence
Myers, JoAnn, Topeka
Myers. Robert W., Newton
Myers, W. Eugene, Iola

N

Nabours, Richard D., Topeka
Nachtigall, Andrew, Newton
Nash, Newman C., Scottsdale, Ariz.
Nash, Robert A., Sbawnee Mission
Nason, Herbert M., Kansas City, Kan.
Neel, Wilbur B., Hutchinson
*Negron, Angel G., Wichita
Neff, James R., Kansas City, Kan.
Neighbor, Ernest G., Kansas City, Kan.
Neighbor, Ernest H., Pittsburg
Neighbor, Gaylord P., Kansas City, Kan.
Neighbor, Ralph M., Emporia
Neil, Roy, Hays
Neis, Harry B., Osage City, Mo.
Nelson, Gerald D., Wichita
*Nelson, Gust H., Jr., Wichita
Nelson, James N., Topeka
*Nelson, Leslie B., Manhattan
Nelson, Paul L., Concordia
Nelson, Richard O., Lawrence
Nelson, Russell A., Wichita
Nelson, T. Eugene, Ft. Scott
*Nesmith, Leslie W., Wichita
Neuenschwander, John Rand, Hoxie
Neuenschwander, John R., Hoxie
Nevins, Richard L., Liberal
Nevitt, J. Russell, Moran
Newby, James P., Wichita
Newcomb, Ward M., Hays
Newman, Clifford, Pittsburg
Newsom, F. Carter, Wichita
Newton, Charles R., DeRidder, La.
Nice, G. William, Topeka
Nickell, Wendell K., Salina
Niederee, W. Curtis, Great Bend
Nieman, John L., Shawnee Mission
Nienstedt, John F., Sun City, Ariz.
Nixon, R. Roy, Concordia
Nixon, William A., Wichita
Nobe, Philip C., Kansas City, Kan.
Norris, Charley W., Kansas City, Kan.
*Norris, Rebecca M., Wichita
Norris, Robert P., Wichita
North, Doris G., Wichita
North, Victor, Wichita
Norton, Robert K., Wichita
Nosti, Juan C., Shawnee Mission
Nothnagel, Arnold F., Kansas City, Kan.
Novotny, Peter C., Topeka
Null, William G., Salina
Nunemaker, Marion E., Hutchinson
Nunez, Julian, Overland Park
Nyberg, Fredrik F., Wichita
Nystrom, Curtis A., Topeka

O

Ohando, Guillermo, Salina
Obourn, Robert L., Topeka
Ochsner, Bruce B., Wichita
O'Dell, Michael L., Kansas City, Kan.
O'Donnell, Harold F., Sun City, Calif.
O'Donnell, Harry E., Junction City
O'Donnell, H. St. Clair, Ellsworth
O'Donnell, Leonard A., Wichita
O'Donnell, Leonard A., Jr., Wichita
O'Donnell, Richard H., Clay Center
O'Grady, Joseph A., Halstead
Oh, Shi-Han, Winfield
Ohman, Richard J., Dodge City
Ohmart, Richard V., Oakley
Oktawiec, Danuta, Shawnee Mission
Oldfield, Ray W., Kansas City, Kan.
Oliver, James H., McConnell AFB, Kan.
Olmo, Neftali, Topeka
Olney, Robert D., Manhattan
Olson, Carl E., Lawrence
Olson, Clitus W., Goodland
Olson, Erwin T., Newton
Oltman, Theodore V., Riley
O'Neil, Robert H., Topeka
Openshaw, Calvin R., Hutchinson
Orchard, Richard A., Lawrence
Osborne, Conrad C., Wichita
Osgood, George M., Prairie Village
O'Shea, James G., Jetmore
Osio, Antonio L., Wichita
Osoba, William G., Wichita
O'Toole, James K., Newton
Overholser, Norman H., El Dorado
Owen, Garry D., Lawrence
Owen, La Rue W., Wichita
Owen, Pere A., Wichita
Owensby, Lindell C., Concordia

P

Pace, John D., Parsons
Padgett, William L., Wichita
Page, Patrick B., El Dorado
Page, Ruth, Wichita
Page, Vale, Plainville
Paine, George E., Hutchinson
Palmer, David L., Wicbita
Palmer, Gerald K., Salina
Palmer, H. C., Jr., Liberal
Palmer, H. Preston, Scott City
Paranjothi, Subramoniam, Oswego
Pardo, Lillian G., Kansas City, Kan.
Pardo, Manuel P., Kansas City, Kan.
Park, Chan H., Kansas City, Kan.
Parker, Harold L., Wichita
Parker, Joseph W., Jr., Emporia
Parker, Robert W., Leavenworth
Parker, Wayne G., Emporia
Parman, Robert D., Topeka
Parmley, Charles C., Wicbita
Parmley, Ray T., Kansas City, Kan.
Parra, Miguel D., Kansas City, Kan.
Paschino, Antonio R., Shawnee Mission
Pasimio, Roger S., Columbus
Patel, Vinod N., Topeka
Patterson, Alice W., Larned
Patterson, Harold L., Larned
Patterson, John R., Shawnee Mission
Patzkowsky, Lawrence W., Amarillo, Tex.
Payne, Robert R., Topeka
Pazell, John A., Kansas City, Kan.
Pearce, Eugene W. J., Shawnee Mission
Pearce, Lunetta A. M., Sbawnee Mission
Pederson, Arnold M., Plainville
Pedraza, Hernando V., Newton
Pees, Gerald B., Iola
Peiffly, Elmer D., Cbetopa
*Pellegrini, Adolph D., Topeka
*Pence, Charles D., Wichita
Pendharker, Mahadeo B., Topeka
Penka, Wayne E., Kansas City, Kan.
Penn, George M., Topeka
Pennington, Katherine, Wichita
Pentecost, Richard L., Leawood
Pereira, Willy G., Arkansas City
Perido, Dominador T., Elkhart
Perkins, Jack L., Hutchinson
Perry, Lawrence L., Jr., Kansas City, Kan.
Peters, Dale W., Wichita
Peters, Glenn R., Kansas City, Kan.
Petersen, A. Gene, Prairie Village
*Petersen, Christine D., Wichita
Petersen, Gerald D., Prairie Village
Peterson, Dean L., Topeka
Peterson, Evan A., Wathena
Peterson, Jack T., Manhattan
Peterson, Robert L., Topeka
Peterson, Vernon J., Topeka
Petrie, Samuel C., Shawnee Mission
Petrik, Edwin L., Topeka
Pettegrew, Pauline K., Prairie Village
Petterson, Cecil E., Syracuse
Petterson, O'Ruth S., Stuart, Fla.
Pettijohn, Walter J., Russell
Pfeffer, Hurwitz, Judith, Kansas City, Kan.
Pfuetze, Robert E., Topeka
Philgreen, Donald E., Ottawa
Phillips, Stephen B., Manhattan
Phillips, Warren G., Prairie Village
Phipps, Jack G., Wichita
Pierce, Charles F., Topeka
Pierce, Donald R., Topeka
Pierce, George E., Kansas City, Kan.
Pierron, George J., Olathe
Pierson, Weir, McPherson
Pilchard, William A., Kansas City, Kan.
Pincomb, Arthur L., Olathe
Pingleton, William W., Kansas City, Kan.
Pinsker, Jacob A., Wichita
Pischke, Frank J., Kansas City, Kan.
Pitman, Will D., Pratt
Pitts, Ronald L., Shawnee Mission
Plowman, Carl W., Jewell
Podrebarac, Leonard F., Wichita
Poggi, Raymond G., Topeka
Pogson, George W., Pittsburg
Pokorny, Cbarles, Halstead
Pol, P. Albert, Kansas City, Kan.
Poling, Terry L., Wichita
Polland, Stephen M., D.O., Kansas City, Kan.
Polly, Richard E., Topeka
Polson, Robert C., Great Bend
Poole, Bernard T., Wichita
Porter, David M., Kansas City, Kan.
Porter, Garry L., Wichita
Porter, Robert D., Topeka
Porter, William J., Pratt
Potter, Robert L., Kansas City, Kan.
Powell, Benson M., Topeka
Powell, Carol W., Leawood
Powell, Kenneth A., Kansas City, Mo.
Powell, William R., Topeka
Powers, G. Robert, Kansas City, Kan.
Powers, Harold W., Sun City, Ariz.
Powers, K. Dean, Wichita
Powers, William F., Scottsdale, Ariz.
Pratt, William L., Leavenworth
Preheim, Delbert V., Newton
Preston, David F., Kansas City, Kan.
Preston, Ralph R., Topeka
Pretz, James B., Kansas City, Kan.
Price, Laurance W., Jr., Lawrence
Price, Pedro G., Guthrie, Okla.
Price, Vaughan C., McPherson
*Prieto, Luis E., Wicbita
Prochazka, Otto F., Liberal
Proctor, Robert W., El Dorado
Prokop, Bradford S., Topeka
Pronko, Michael J., Prairie Village
Proud, G. O'Neil, Kansas City, Kan.
Pugh, David M., Kansas City, Kan.
Pulido, Quinton M., Elkhart
Pullman, Norman K., Wichita
Purinton, Lew W., Wichita
Purves, Robert K., Wichita
Pusitz, Manuel E., Topeka
Putnam, Lyle B., Wichita
Pyle, Lucien R., Topeka

Q

Qamar, Yusuf, Newton
Quackenbusb, Robert P., St. John
Quinones, Eladio A., Osawatomie

* Probationary members.

R

Rabe, Melvin A., Leavenworth
Rabin, Erwin R., Cleveland, Ohio
Radom, Sanford B., Kansas City, Mo.
Radovanov, Radmila, Wichita
*Rahbar, Al A., Wichita
Rahman, Hafiz M. A., Wichita
Rainbow, Kathryn A., Topeka
Raines, Omer M., Topeka
Rajanna, Krishna, Shawnee Mission
Ramchandani, Ashok P., Johnson
Ramsey, Bartlett W., Topeka
Randle, Jack E., Tulsa, Okla.
Ransdell, Edgar C., Topeka
Ransom, James H., Topeka
Rassa, Reza P., Salina
Rate, Robert G., Halstead
Rathbun, Edwin D., Liberal
Ratzlaff, Abraham K., Goessel
Rau, Jerold M., Kansas City, Kan.
Rawcliffe, Robert A., Wichita
Rayburn, Frederick W., Topeka
Read, William T., Coffeyville
Reals, William J., Wichita
Reazin, Walter L., Wichita
Reckling, Frederick W., Kansas City, Kan.
Reddy, Eashwer K., Kansas City, Kan.
Reddy, P. Jagannadha, Hill City
Redford, John W. B., Kansas City, Kan.
Reece, Adelbert S., Gardner
Reece, Adelbert T., Gardner
Reece, Carol Ann, Gardner
Reece, Richard J., Salina
Reed, A. J., Wichita
Reed, D. Cramer, Wichita
*Reed, David D., Wichita
Reed, James S., Ethiopia
Reed, Ralph R., Lawrence
Reese, Jack D., Liberal
Reese, John L., Lawrence
Reeve, Arnold M., Kansas City, Kan.
Reeves, Bradford F., Wichita
Reeves, Charles S., Fort Scott
Regier, Henry L., Kansas City, Kan.
Regier, LaDonna M., Colby
Reid, David W., Topeka
Reifsneider, J. Stanley, Sedona, Arizona
*Reimer, Donald, Topeka
Reinhardt-Wulf, Taissia, Garden Plain
Reinking, Victor E., Topeka
Reis, Robert L., Miami, Fla.
Reitz, Leland C., Manhattan
Reitz, Roger P., Manhattan
Reivich, Ronald S., Overland Park
Relihan, Donald A., Wichita
Relihan, Francis H., Smith Center
Rempel, John H., Wichita
Rendon, Humberto M., Topeka
Renner, Marion J., Goodland
Rentfrow, James W., Ponca City, Okla.
Replogle, Charles B., Great Bend
Rettenmaier, Albert J., Kansas City, Kan.
Reusch, Clifford S., Twin Falls, Idaho
Reyes, Francisco A., Jr., Ottawa
Reymond, Ralph D., Topeka
Reynolds, Jeffrey C., Hays
Reynolds, Lloyd W., Hays
Rhoads, James P., Wichita
Rhoden, Curtis H., Wichita
Rhodes, Ivan E., Wichita
Rhodes, James B., Kansas City, Kan.
Rhodes, Lowell M., Wichita
Rhodes, Martin L., Kansas City, Kan.
Rice, Frederick A., Jr., Kansas City, Kan.
Rich, Eldon S., Newton
Richards, Dennis D., Clay Center
Richardson, Jay L., Arkansas City
Richardson, Stewart F., Wichita
Richert, Robert C., Kansas City, Mo.
Rick, Gregory G. P., Jr., Kansas City, Kan
Ridlon, Albert M., Hastings, Nebr.
Riedel, Robert H., Topeka
Rieger, Ernest H., Wichita
Rieke, Frank A., Shawnee Mission
Riley, Ray B., Kansas City, Kan.
Riordan, Hugh D., Wichita
Rising, Jesse D., Kansas City, Kan.
Rizza, Robert G., Halstead
Roach, Neil E., Halstead
Roberts, Daniel K., Wichita
Roberts, Fred F., Kansas City, Kan.
Roberts, Howard E., Topeka
Roberts, Louis S., Wichita
Roberts, Richard S., Lawrence
Roberts, Warren E., Topeka
Robertson, Joseph K., Wichita
Robinson, David W., Kansas City, Kan.
Robinson, Edgar L., Independence
Robinson, G. Donald, Wichita
Robinson, John E., Wichita
Robinson, Ralph G., Kansas City, Kan.
Robinson, Robert H., Wichita
Robison, Corbin E., Lawrence
Robison, James T., Kansas City, Kan.
Robles, Luis H., Shawnee Mission
Roderick, James E., Salina
Rodriguez, Paul L., Garden City
Roeder, Robert E., Topeka
Rohr, Joseph H., Shawnee Mission
Romalis, Brian E., Wichita
Rombold, Charles R., Augusta
Romeiser, Rex S., Salina
Romig, Donald A., Sante Fe, New Mexico
Rook, Lee E., Kansas City, Kan.
Rorabaugh, Donald C., Abilene
Rose, Donald L., Bella Vista, Ark.
Rose, Shelby D., Wellington
Rosenberg, Stanton L., Shawnee Mission
Rosenberg, Thomas F., Wichita
Rosenfeld, Warren N., Kansas City, Kan.
Roskos, S. Richard, Topeka
Ross, Jack L., Topeka
Rossitto, Anthony F., San Francisco, Calif.
Roth, Alan E., Kansas City, Kan.
Rothrock, Irvin A., Lawrence
Rouleau, David N., Newton
Rouse, Paul H., Lansing
Rovinski, Helen T., Topeka
Rowlett, Jack G., Paola
Roy, William R., Topeka
Rubin, Ben, Jr., Kansas City, Kan.
Rubin, Herbert M., Prairie Village
Ruble, James L., Jr., Overbrook
Rucker, Clemens, Topeka
Rueb, Andrew E., Salina
Ruiz, Carlos M., Great Bend
Rumold, Melvin J., Shawnee Mission
Runnels, John B., Topeka
Russell, Homer B., Great Bend
Russell, Philip W., Wichita
Ruth, William E., Kansas City, Kan.
Ruzicka, Lawrence J., Concordia
Ryan, Edward J., Emporia
Ryan, Michael J., Kansas City, Kan.
Ryan, W. Scott, Emporia

S

Sabin, George M., Jr., Wichita
Sadiq, Suleman, Wichita
*Saeed, Mahammad A., Wichita
Saffo, Karl S., Shawnee Mission
Sales, Harvey N., Kansas City, Kan.
*Salgado, Carlos R., Wichita
Sanchez, Rogelio, Topeka
Sanders, J. Alan, Lawrence
Sandhu, Paul S., Coffeyville
Santiago, Eleanor M., Kansas City, Kan.
Santoscoy, Gilbert S., Wichita
Sargent, Joseph, Topeka
Saul, F. William, Emporia
Savin, Michael A., Kansas City, Kan.
Savin, Virginia J., Kansas City, Kan.
Sawkar, Laxmidas A., Shawnee Mission
Sayler, Jerome, Great Bend
Saylor, Edward H., Topeka
Saylor, Leslie L., Topeka
Scales, William M., Blue Eye, Mo.
Scamman, W. Wike, Topeka
Scanlon, James H., Haddam, Conn.
Schaefer, Joseph P., Shawnee Mission
Schaffer, Clarence K., Santa Cruz, Calif.
Schaffer, Richard A., Shawnee Mission
Schaum, Stephen P., Kansas City, Kan.
Schellinger, Richard P., Emporia
Scherer, Alfred L., St. John
Schiltz, Frances H., Wichita
Schimke, R. Neil, Kansas City, Kan.
Schlachter, Ernest R., Wichita
Schlemmer, Roger B., Pittsburg
Schlicher, John E., Wichita
Schloerb, Paul R., Kansas City, Kan.
Schloesser, Harvey L., Topeka
Schlotterback, William E., Mankato
Schlozman, Daniel L., Prairie Village
Schlueter, John J., Wichita
Schmaus, Lyle F., Iola
Schmidt, Alfred F., Little River
Schmidt, Herbert R., Newton
Schmidt, Ramon W., Garden City
Schnoebelen, Rene E., Kinsley
Schopf, Clifton C., Wichita
Schotland, Edward S., Kansas City, Kan.
Schrepfer, Rosemary, Kansas City, Kan.
Schroeder, Sydney O., Lawrence
Schroll, Jack C., Hutchinson
Schultz, James E., Council Grove
Schultz, Wayne H., El Dorado, Ark.
Schulz, Millard E., Manhattan
Schwartz, Eugene W., Dodge City
Schwartz, John H., Salina
Schwartz, V. Dean, Wichita
Schwegler, Raymond A., Lawrence
Schwegler, Raymond A., Shawnee Mission
Scott, Alex, Junction City
Scott, Chester E., Salina
Scott, Duane L., Belleville
Scott, Vincent L., Wichita
*Scott, William H., Wichita
Seago, Charlotte L., Liberal
Seaman, Lauren I., Olathe
Seeley, James C., Holton
Segerson, John A., Topeka
Sehdev, Harcharan S., Topeka
*Sehdev, Joan, Topeka
Seitz, Joseph E., Ellsworth
Sekavec, Gordon B., Oakley
Sereres, Edgar P., Kansas City, Kan.
Serrano, Joaquin, LaCrosse
Settle, Russell O., Jr., Topeka
Settle, Russell O., Sr., Topeka
Sevier, Samuel M., Topeka
Shaad, Dorothy J., Shawnee Mission
Shafer, Preston J., Wichita
Shah, Indravadan S., Dodge City
Shah, Sharfuddin, Halstead
Shaw, James W., Wichita
Shaw, James W., Jr., Hutchinson
Shaw, Joseph L., Topeka
*Shaw, Richard C., Wichita
Sheafor, Douglas, Topeka
Shears, Robert N., Hutchinson
Sheffer, Keith D., Olathe
Shellito, John G., Wichita
Shepard, LeRoy W., Larned
Shepherd, Glen R., Corona Del Mar, Calif.
Sheppard, Robert G., Smith Center
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Sherwood, Clarence E., Topeka
Shields, James M., Jr., El Dorado
Shiflet, Albert W., Wichita
Shiney, Margaret L., Topeka
Shivel, David G., Great Bend
Shofstall, William H., Shawnee Mission
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Siegel, Albert R., Wichita
Siemens, Richard A., Lyons
Sifers, Earl C., Kansas City, Kan.
Sifford, R. Lawrence, Wichita
Siler, Eugene T., Hays
Sills, Charles T., Newton
Silverman, Mervyn F., Wichita
Silvers, Alvin, Kansas City, Kan.
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Simpson, William S., Topeka
Sims, Thomas J., Jr., Sarasota, Fla.
Sinclair, Robert F., Manhattan
Sisk, Philip B., Topeka
*Skibba, Richard M., Wichita
Sleeper, Carol A., Wichita
Sleeper, Donald C., Wichita
Sloo, Milo G., Salina
Smiley, William A., Junction City
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Smith, Bruce G., Arkansas City
Smith, Dale C., Prairie Village
Smith, Donald J., Shawnee Mission
Smith, Erma A., Wichita
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Smith, Harold R., Salina
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Smith, John D., Larned
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Smith, Newton, Arkansas City
Smith, Stephen J., Arkansas City
Smith, Willard J., Jr., Wichita
Snodell, Firmin E., Shawnee Mission
Snook, Robert R., McLout
Snow, Arthur D., Jr., Kansas City, Kan.
Snow, Donald L., Lansing
Snowbarger, Marvin D., Emporia
Snyder, C. John, Winfield
Snyder, Gregg M., Wichita
Snyder, Howard E., Winfield
Sodomsky, Martin E., Topeka
Soeldner, James O., Olathe
Sohlberg, Robert, Jr., McPherson

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Solsky, Marilyn A., Detroit, Mich.
Somers, Marvin M., Wichita
Songer, Herbert L., Lincoln
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Soucek, Charles D., Kansas City, Kan.
Spann, Richard W. Wichita
Spaulding, John S., Kansas City, Kan.
Spearman, Jesse L., Topeka
Speer, Frederick, Shawnee Mission
Speer, Leland, Kansas City, Kan.
Speer, Louis N., Ottawa
Speirs, Richard E., Dodge City
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Spencer, Wayne E., Topeka
Spikes, Marion E., Garden City
Spitzer, Jerome S., Hutchinson
Stafford, Robert W., Hutchinson
Stanley, Kenneth E., Jeddah, Saudia Arabia
Stanley, Rex C., Paola
Stark, James R., Wichita
Starkey, Jerald L., Russell
Stech, Joseph M., Andale
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Steegman, A. Theodore, Indianapolis, Ind.
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Stein, Paul S., Wichita
Stein, Robert B., Manhattan
Steiner, Robert M., Overland Park
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Sullivan, Henry B., Jr., Shawnee Mission
Sullivan, Leonard L., Wichita
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Sumner, Marion M., Hutchinson
Sumner, Ralph N., Fredonia
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Sutton, Robert E., Ottawa
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Switzer, Robert E., Trevose, Pa.
Swogger, Glenn, Jr., Topeka

T

Takahashi, Tetsuro, Topeka
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Tarm, Felix, Hutchinson
Tarnower, William, Topeka
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Teare, Max E., Garden City
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Tempero, Stephen, Topeka
Templeton, Arch W., Kansas City, Kan.
Teng, Sioe Hong, Newton
Telzlaff, Archibald O., Prairie Village
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Therou, Leona F., Kansas City, Kan.
Thiemann, Alfred H., D.O., Sublette
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Thomas, Thomas V., Prairie Village
Thompson, Daniel M., Wichita
Thompson, Dannie M., Kansas City, Kan.
*Thoms, Norman W., Topeka
Thorn, Druery R., Norman, Ok.
Thornton, Foxhall P., Concordia
Thorpe, Francis A., Pratt
Throckmorton, Marion A., Wichita
Thurston, David E., Topeka
Tice, Galen M., Shawnee Mission
Tiemann, William H., Manhattan
Tihen, Edward N., Wichita
Tihen, Henry N., Wichita
Tiller, George R., Wichita
Tillotson, Don R., Ulysses
Tilton, Frank M., Wichita
Tinker, Robert C., Wichita
Tinterow, Maurice M., Wichita
Tippin, Ernest E., Jr., Wichita
Tivorsak, Arkom, Atchison
Toalson, William B., Kansas City, Kan.
Tocker, Alfred M., Wichita
Tocker, Lilia, Rodriguez, Wichita
Tompkins, Carl O., Newton
Tonn, Gerhart R., Wichita
Tovar, Manuel H., Hays
Toyama, Takeko M., Shawnee Mission
Tozer, Richard C., Topeka
Tracy, Terry A., Wichita
Travis, John W., Topeka
Trees, Clyde B., Topeka
Trees, Donald P., Wichita
Treger, Newman V., Topeka
Trekell, William V., Dodge City
Tretbar, Harvey A., Wichita
Tretbar, Lawrence L., Kansas City, Kan.
Trimble, David P., Emporia
Triplett, William B., Topeka
Trueworthy, Robert C., Kansas City, Kan.
Truitt, William R., Topeka
Tubis, Stuart H., Kansas City, Kan.
Tucker, Sheridan G., Kansas City, Kan.
Turner, John W., Garden City
Tutera, Gino, Shawnee Mission
Tweet, Frederick A., Pittsburg
Tweito, David H., Hutchinson
*Twemlow, Stuart W., Topeka
Tyler, William F., Caney

U

Ubelaker, Ernest J., South Haven
Ueda, Issaku, Kansas City, Kan.
Uhlig, Paul J., Wichita
Uhr, Nathaniel, Topeka
Underwood, Charles C., Emporia
Unger, James L., Kansas City, Kan.
Unrein, Robert J., Great Bend
Uy, Wilson, Coffeyville

V

Vaidyanathan P. C., Winfield
Vakas, John L., Coffeyville
Valk, William L., Kansas City, Kan.
Vancura, Stephen J., Kansas City
VandeGarde, Larry D., Topeka
*VanDerVliet, Stephen K., Wichita
VanderVelde, Stanley L., Emporia
*Vannaman, Donald D., Overland Park
Vats, Tribhawan S., Kansas City, Kan.
Vaughan, Donna A., Newton
Villanueva, Cesar L., Kansas City, Kan.
Vin Zant, Larry E., Wichita
Viswanathan, Byravan, Topeka
Vogt, Vernon W., Newton
Von Leonrod, George, Jr., Dighton
Von Ruden, William J., Hutchinson
Voorhees, Carroll D., Leavenworth
Voorhees, Gordon S., Leavenworth
Vorhees, Victor J., Wichita
Votapka, William L., Stockton
Voth, Douglas W., Wichita
Voth, Harold M., Topeka

W

Waddell, Bill D., Kansas City, Kan.
Wade, Theodore E., Liberal
*Wadud, Abdul, Wichita
Wagenblast, Howard R., Saline
Waggoner, Franklin E., Bonner Springs
Waldby, Gail E., Kansas City, Kan.
Waldorf, Melvin H., Jr., Greensburg
Walker, Jack D., Kansas City, Kan.
Walker, Maurice A., Kansas City, Kan.
Walker, Nellie G., Lee's Summit, Mo.
Walker, William H., Eskridge
Walker, William K., Sedan
Wallace, Leo F., Topeka
Wallace, Robert W., Wichita
Wallace Wayne O., Atchison
Wallace, Wayne O., Jr., Atchison
Walls, William J., Topeka
Walsh, Eugene A., Onaga
Walsh, Thomas E., Onaga
Walters, Byron W., Lawrence
Walton, Philip D., Atwood
Walz, Royce C., Topeka
Walz, Thomas J., St. Francis
Wang, Sidney W., Lenexa
Ward, Howard N., Topeka
Ward, James A., Belleville
Ward, Robert L., Stafford
Ware, Lucile M., Topeka
Warren, John W., Jr., Wichita
Warren, Linda D., Washington
Warren, Lloyd P., Wichita
Warren, Roger D., Hanover
Warren, Wirt A., Wichita
Waters, Clarence N., Salina
Watts, Harry E., Hays
Waugh, George L., Olathe
Waxman, David, Kansas City, Kan.
Waxse, I. Joseph, Topeka
Waylan, Thornton L., Nashville
Weaver, Jack D., Wichita
Weaver, Jerome A., Overland Park
Weaver, J. Robert, Wichita
Weaver, Walter D., Topeka
Webb, James R., Shawnee Mission
Weber, Clarence J., Salina
Weber, Darrell J., Topeka
Weber, Hugo P., Jr., Wichita
Weber, Robert W., Salina
Weddle, Douglas P., Ft. Scott
Wedel, Kenneth D., Minneapolis
Wedel, Kermit G., Minneapolis
Wedin, Paul H., Wichita
Wehmeyer, Donald L., Dyess AFB, Tex.
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Welch, Jack W., Halstead
Welch, Lauren K., Wichita
*Welch, Martin H., Wichita
Well, Michael A., Lawrence
Wells, Alvin Y., Winfield
Wells, Bruce W., Winfield
*Wells, James D., Wichita
Wells, Max W., Winfield
Wellshear, Charles C., Wichita
Weltmer, Roger P., Beloit
Weninger, John H., Wichita
Wenzel, Anna M., Hays
Werner, Willard F., Tribune
Werth, Claude J., Kansas City, Kan.
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Wescoe, W. Clarke, New York, N. Y.
West, C. Omer, Kansas City, Kan.
West, Ray A., Wichita
West, William T., Wichita
Whallon, Jacob T., Wichita
Wheeler, Pinckney R., Wichita
Whitaker, Ren R., Oberlin
White, Benjamin E., II, El Dorado
White, Charles L., Great Bend
White, Charles M., Wichita
White, Donald C., Coffeyville
White, Fagan N., Russell
White, Harry H., Topeka
White, James R., Kansas City, Kan.
White, John P., Parsons
White, Harry H., Topeka
White, R. Burnley, Winfield
White, Thaddeus H., Manhattan
Whitehead, Richard E., Prairie Village
Whitley, Douglas M., Shawnee Mission
Whittier, Frederick C., Shawnee Mission
Wiant, Max K., Jr., Ft. Defiance, Ariz.

* Probationary members.

Wiegman, Hugh A., Hays
Wiens, J. Wendell, Newton
Wiens, Peter K., Ness City
*Wiese, Lowell M., Topeka
Wigginton, Gerald D., D.O., Shawnee Mission
Wiggs, James W., Great Bend
Wiksten, Vernon C., Topeka
Wilchins, Lawrence J., Wichita
Wilcox, Donald E., Topeka
Wilcox, Howard L., Jr., Hays
Wilcox, Howard L., Lawrence
Wilder, Lowell W., Wichita
Wiley, Horace M., Garden City
Wiley, John H., Shawnee Mission
Williams, Charles L., Wichita
Williams, Evan R., Dodge City
Williams, Gene V., El Dorado
Williams, Homer J., Osage City
Williams, Howard V., Topeka
Willis, Jon T., St. John
Wilson, James W., Coffeyville
Wilson, L. Barrick, Shawnee Mission
Wilson, Marvin H., Topeka
Wilson, Robert B., Prairie Village
Wilson, Robert L., Valley Center
Wilson, Sloan J., Kansas City, Kan.
Winblad, James N., Winfield
Winchell, H. H., Forsyth, Wichita
Winchester, Eugene B., Valley Center
Winter, Calvert J., Jr., Kansas City, Kan.
Wisdom, Jay K., Wichita
Wisner, Harry J., Jr., Wichita
Witt, Richard F., Kansas City, Kan.
*Witter, Robert L., Wichita
Wittman, Albert F., Wichita
Wolf, Curtis V., Lyons
Wolf, Karl T., Kansas City, Mo.
Wolfe, Frederick, Wichita
Wolfe, Ted W., Wichita
Wolfenbarger, Keith A., Hoisington
Wolff, Frederick P., Pratt
Wolkoff, A. Stark, Kansas City, Kan.
Wollmann, Martin, Lawrence
Wong, Bert Y., Kansas City, Kan.
Wong, Normund, Topeka
Wood, Douglas H., Pittsburg
Wood, Gary B., Wichita
Wood, Robert D., Horton
Woodard, Lawrence E., Wichita
Woodhouse, Charles L., Wichita
Woods, Hugh J., Smith Center
Woods, Robert P., Topeka
Woollcott, Phillip, Jr., Topeka
Wortman, Jack A., Hutchinson
Wray, A. James, Wichita
Wright, M. Erik, Lawrence
Wright, Robert W., Kansas City, Kan.
Wright, Stanley E., Junction City
Wulff, Edwin T., Atchison
Wurster, George R., Overland Park

X

Y

Ye, Richard C., Prairie Village
Yoder, Emerson D., Denton
Yoder, Vernon E., Newton
Yohe, Ruth M., Overland Park
Youmans, Roger L., Africa
Young, Charles H., Atchison
Young, John W., Prairie Village
Young, Theodore E., Topeka
*Youngberg, Dean I., Wichita
Youngstrom, Karl A., Kansas City, Kan.
Yulich, John O., Kansas City, Kan.

Z

Zacharias, Carl K., Dodge City
Zakheim, Richard M., Kansas City, Kan.
Zaremski, Sherman C., Prairie Village
Zarnow, Hilary, Wichita
Zee, Hugo J., Topeka
Zeller, Myron J., Garden City
Zeller, Orville A., Wichita
Ziegler, Dewey K., Kansas City, Kan.
Zimmerman, Daniel D., Shawnee Mission
Zimmerman, Kenneth D., Wichita
Zimmerman, William H., Topeka
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ADM	Administrative Medicine
A	Allergy (sub-specialty of Internal Medicine)
ANES	Anesthesiology
AM	Aviation Medicine (special field of Preventive Medicine)
CD	Cardiovascular Disease (sub-specialty of Internal Medicine)
CHP	Child Psychiatry (sub-specialty of Psychiatry)
CP	Clinical Pharmacology
CRS	Colon and Rectal Surgery
DR	Diagnostic Roentgenology (special field of Radiology)
D	Dermatology
EM	Emergency Medicine
END	Endocrinology
ENT	Ear, Nose and Throat
FOP	Forensic Pathology (special field of Pathology)
FP	Family Practice
GE	Gastroenterology (sub-specialty of Internal Medicine)
GPM	General Preventive Medicine (special field of Preventive Medicine)
GS	General Surgery
GEN	Genetics
GER	Geriatrics
GYN	Gynecology
HEM	Hematology
HM	History of Medicine
ID	Infectious Diseases
IM	Internal Medicine
IE	Insurance Examination
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NS	Neurological Surgery
N	Neurology
NP	Neuropsychiatry
OBG	Obstetrics and Gynecology
OM	Occupational Medicine (special field of Preventive Medicine)
OPH	Ophthalmology
ORS	Orthopedic Surgery
OST	Osteopathy
OTO	Otolaryngology
PATH	Pathology
PD	Pediatrics
PDA	Pediatric Allergy (sub-specialty of Pediatrics)
PDC	Pediatric Cardiology (sub-specialty of Pediatrics)
PDH	Pediatric Hematology (sub-specialty of Pediatrics)
PDN	Pediatric Neurology (sub-speciality of Pediatrics)
PM	Physical Medicine and Rehabilitation
PS	Plastic Surgery
P	Psychiatry
PH	Public Health (special field of Preventive Medicine)
PUD	Pulmonary Diseases (sub-specialty of Internal Medicine)
R	Radiology
RES	Resident
RHU	Rheumatology
SH	School Health
TR	Therapeutic Radiology (special field of Radiology)
TS	Thoracic Surgery
U	Urology
OO	Retired
*	Probationary Member

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14 M 2401 40 GS

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(263-1333)
01 M 1902 35 FP

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11 M 1902 44 FP

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(263-1098)
02 M 1902 28 OO

Heins, Lawrence G., Route 5, 67410
(263-1602)
97 M 4102 21 OO

Mohler, Jack M., 1111 Brady, 67410
(263-4131)
32 M 1902 61 FP

Rorabaugh, Donald C., 1111 Brady, 67410
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33 M 1902 58 FP

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(Pottawatomie County Society)

McKnight, Ellis B., 66401
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03 M 1902 33 FP

ALMENA—913
(Northwest Kansas Society)

Bennie, Herbert S., 67622
(669-2422)
95 M 1902 21 FP

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20 M 2105 50 FP

ANDALE—316
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Stech, Joseph M., Andale Clinic, 67001
(445-2152)
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ANTHONY—316
(Tri-County Society)

Antrim, Philip J., 1101 E. Spring, 67003
(842-5144)
15 M 1902 42 FP

Flowers, Marshall B., 725 N. Anthony, 67003
84 M 2005 07 00

Hall, Jerry D., 1101 E. Spring, 67003
(842-5144)
31 M 3901 56 FP

ARKANSAS CITY—316
(Cowley County Society)

Alvarez, Norberto, 323 N. Summit, 67005
(442-2100)
27 M 2750 53 FP

Aucar, Alfredo, 2508 Edgemont Dr., 67005
(442-1710)
23 M 27501 53 ENT

Braley, Jack A., D.O., 508 AC Office Bldg., 67005
(442-6660)
29 M 1875 68 IM

Campbell, Garland L., 201 A. C. Office Bldg., 67005
(442-1350)
13 M 1902 40 U

Green, Lawrence C., 112 E. Central Ave., 67005
(442-4850)
43 M 3901 69 FP

Hill, James E., 2508 Edgemont Dr., 67005
(442-4300)
09 M 1902 34 OPH

Hinshaw, Edgar D., Rt. #3, 67005
(442-1273)
15 M 1902 51 R

Meek, George C., 323 N. Summit, 67005
(442-2100)
05 M 1902 32 FP

Morton, Roscoe F., 302 A. C. Office Bldg., 67005
(442-2450)
13 M 401 42 IM

Pereira, Willy G., 323 N. Summit, 67005
(442-2100)
39 M 73701 67 IM
Richardson, Jay L., 2508 Edgemont Dr., 67005
(442-4150)
38 M 1902 65 GS
Smith, Bruce G., 115 Hillside, 67005
(442-5600)
20 M 1902 44 IM
Smith, Newton C., 323 N. Summit, 67005
(442-2100)
21 M 3901 45 FP
Smith, Stephen J., 115 Hillside, 67005
(442-5600)
45 M 1902 71 FP

ARMA—316
(Crawford County Society)

Lance, Raymond W., Box AA, 66712
(347-8619)
22 M 1902 47 FP

ASHLAND—316
(Iroquois County Society)

Burket, Ivan R., 124 W. 7th, 67831
(635-2827)
88 M 2401 14 OO
Fretz, William D., P.O. Box 807, 67831
(635-2223)
47 M 1902 73 FP

ATCHISON—913
(Atchison County Society)

Bosse, Frank K., 1301 Riverview Dr., 66002
(367-0692)
09 M 2802 33 OO
Brady, Charles S., 111 N. 5th, 66002
(367-1232)
10 M 3006 38 GS
Bribach, Eugene J., 125½ N. 5th, 66002
(367-0225)
83 M 2802 05 OPH
Brown, Robert O., 1400 N. 2nd St., 66002
(367-1922)
14 M 1902 44 FP
Burke, Joseph V., 1301 N. 3rd, 66002
(367-5496)
35 M 3006 66 GS
Fast, W. Spencer, 1225 N.2nd, 66002
(367-0362)
11 M 3006 39 FP
Growney, John T., 801 Atchison, 66002
(367-5020)
37 M 3006 62 FP
Hart, Lawrence E., 1412 N. 2nd, 66002
(367-5054)
32 M 1902 64 FP
Morrison, Ira R., 825 N. 10th, 66002
(367-2763)
07 M 1611 36 IM
Tayiem, Abdel K., 106 N. 4th, 66002
(367-0362)
43 M 33002 68 GS
Tivorsak, Arkom, P.O. Box 328, 66002
(367-2131)
40 M 89101 68 R
Wallace, Wayne O., 1301 N. 3rd, 66002
(367-5434)
12 M 1902 37 FP
Wallace, Wayne O., Jr., 1301 N. 3rd, 66002
(367-5434)
36 M 2803 65 FP
Wulff, Edwin T., 111 N. 5th, 66002
(367-5033)
07 M 2834 36 FP
Young, Charles H., 1301 N. 3rd, 66002
(367-4053)
23 M 1902 53 FP

ATTICA—316
(Tri-County Society)

Stone, Grant C., 215 W. Ave. D, 67009
(254-7219)
08 M 5605 35 FP

ATWOOD—913
(Northwest Kansas Society)

Henneberger, Charles E., 175 E. Court Pl., 67730
(626-3311)
86 M 4101 10 FP
Walton, Philip D., 5th & Page, 67730
(626-3322)
32 M 1902 63 FP

AUGUSTA—316
(Butler County Society)

Anderson, Dale W., Augusta Plaza, 67010
(775-5432)
30 M 1902 55 FP
Barber, James L., Augusta Plaza, 67010
(775-5432)
31 M 1902 57 FP
Haffner, William N., 105 E. 5th, 67010
(775-5651)
35 M 1902 61 GS
Rombold, Charles R., R.R. 1, 67010
99 M 1606 24 OO

BAXTER SPRINGS—316
(Cherokee County Society)

Alquist, V. Dale, 21st & Fairview, 66713
(856-2400)
17 M 1902 42 GS
Chubb, Richard M., 445 E. 10th, 66713
(856-2444)
29 M 1606 54 FP
Clairborne, Richard H., III, 2201 Military Ave., 66713
(856-3535)
27 M 1902 53 FP
Mehaffy, Orville A., 411 E. 11th, 66713
(856-2383)
42 M 1902 69 FP

BELLEVILLE—913
(Republic County Society)

Beiderwell, Paul L., 2703 M Street, 66935
(527-2174)
08 M 3901 38 ADM

Chaney, Ernie J., 2316 G St., 66935
(527-2237)
27 M 1902 56 FP
Doubek, Herbert D., 2316 "G" St., 66935
(527-2237)
28 M 1902 56 FP
Scott, Duane L., 1206 18th St., 66935
(527-2217)
34 M 1902 60 FP
Ward, James A., 1206 18th St., 66935
(527-2217)
34 M 1902 58 FP

BELOIT—913
(Mitchell County Society)

Dobratz, Robert A., 310 W. 8th, 67420
(738-2246)
24 M 1902 52 FP
Drake, Douglas J., 310 W. 8th, 67420
(738-2246)
43 M 1902 71 FP
Klenda, Martin B., 310 W. 8th, 67420
(738-2246)
38 M 1643 63 GS
Weltmer, Roger P., 112 W. Main, 67420
(738-2574)
18 M 1902 44 U

BLUE RAPIDS—913
(Northeast Kansas Society)

Lawless, Harold L., 607 Lincoln, 66411
(226-7202)
29 M 702 54 FP

BONNER SPRINGS—913
(Wyandotte County Society)

May, Kenneth L., 122 N. Nettleton, 66012
(422-2020)
20 M 1902 51 FP
Mitts, Ernest W., 122 N. Nettleton, 66012
(422-2020)
22 M 1902 51 FP
Waggoner, Franklin E., 122 N. Nettleton, 66012
(422-2020)
26 M 1902 61 FP

BUHLER—316
(Reno County Society)

Friesen, Orlando J., 107 W. 2nd, 67522
(543-2330)
27 M 1902 56 FP

BURLINGTON—316
(Flint Hills Society)

McConnell, Archie B., 66839
(364-5732)
90 M 3901 15 FP

CALDWELL—316
(Tri-County Society)

Kinnan, Leon F., 523 S. Market, 67022
(845-6422)
18 M 3901 42 FP

CANEY—316
(Southeast Kansas Society)

Moore, Robert F., 4th & McGee, 67333
(879-2135)
28 M 1902 56 FP
Tyler, William F., 4th & McGee, 67333
(879-2167)
42 M 1902 68 FP

CEDAR VALE—316
(Southeast Kansas Society)

Cohnberg, Rosellen E., P.O. Box 398, 67024
(758-2266)
22 M 2802 47 FP PD

CENTRALIA—913
(Northeast Kansas Society)

Capsey, Roswell E., 122 Main, 66415
(857-3392)
04 M 1902 44 OO

CHANUTE—316
(Southeast Kansas Society)

Abbuehl, Don R., 505 S. Plummer, 66720
(431-2500)
18 M 1902 44 GS
Ashley, George L., 505 S. Plummer, 66720
(431-2500)
12 M 1902 37 GS
Ashley, Glen, 505 S. Plummer, 66720
(431-2500)
16 M 1902 43 FP
Baker, Henry K., 1501 W. 7th, 66720
(431-9310)
08 M 1606 35 GS
Dick, Henry J., Jr., 1501 W. 7th, 66720
(431-9310)
27 M 1902 58 FP
Gehrt, Earl B., 505 S. Plummer, 66720
(431-2500)
32 M 1902 62 FP
Hudson, James R., Neosho Memorial Hospital, 66720
(431-4000)
37 M 1902 63 R
Kihm, Albert A., 505 S. Plummer, 66720
(431-2500)
27 M 1902 55 FP

CHAPMAN—913
(Dickinson County Society)

Svoboda, Charles R., 413 N. Marshall, 67431
(922-6400)
18 M 1902 46 FP

CHERRYVALE—316
(Labette County Society)

Mekis, John, 216 E. 4th, 67335
(336-2134)
27 M 47302 53 FP

CHETOPA—316
(Labette County Society)

Peffly, Elmer D., 327 Maple, 67336
(236-7188)
22 M 3901 53 FP

CIMARRON—316
(Ford County Society)

Brown, Paul W., Box 802, 67835
(855-2251)
44 M 1902 70 FP

CLAY CENTER—913
(Clay County Society)

Anderson, Severt A., 532 Lincoln, 67432
(632-3166)
07 M 1902 36 FP
Carleton, Richard C., 709 Liberty, 67432
(632-5603)
31 M 3005 61 FP
McIlvain, Guy B., 532 Lincoln, 67432
(632-2376)
97 M 1643 25 OO
McVay, R. Bruce, 1503 5th, 67432
(632-3542)
97 M 1902 29 OO
O'Donnell, Richard H., 709 Liberty, 67432
(632-3101)
16 M 1902 41 GS
Richards, Dennis D., 115 S. 6th, 67432
(632-5621)
34 M 1902 60 FP

CLYDE—913
(Cloud County Society)

Freeborn, Warren S., Jr., 66938
(446-2221)
26 M 1720 51 FP

COFFEYVILLE—316
(Southeast Kansas Society)

Bryant, Homer L., Box 844, 67337
(251-9597)
99 M 3501 30 OO
Campbell, William H., 1411 W. 4th, 67337
(251-3235)
39 M 1902 65 OPH
Coyle, John F., 209 W. 7th, 67337
(251-2400)
21 M 1902 44 FP
Dickinson, Charles R., 109 W. 7th, 67337
(251-1340)
20 M 1606 44 GS
Diver, Robert W., P.O. Box 288, 67337
(251-0688)
93 M 1902 24 OO
Ellis, Stephen S., 1411 W. 4th, 67337
(251-3360)
11 M 2802 36 GS
Ha, Sang W., 1613 W. 4th, 67337
(251-7750)
35 M 58309 60 OBG
Han, Chan S., 1512 W. 4th, 67337
(251-1560)
35 M 58306 61 PD
Howerter, Bernard E., Jr., P.O. Box 659, 67337
(251-4790)
43 M 1803 68 U
Jewell, Ross L., Box 718, 67337
(251-4510)
13 M 1902 56 FP
Low, Joseph H., P.O. Box 285, 67337
(251-5610)
05 M 1902 31 FP
Martin, Albert E., Jr., 109 W. 7th, 67337
(251-2350)
11 M 1902 37 FP
Read, William T., 1411 W. 4th, 67337
(251-1120)
16 M 2802 40 FP
Sandhu, Paul S., 209 W. 7th, 67337
(251-2450)
42 M 49508 65 GS
Uy, Wilson, 101 Tyler, 67337
(251-1200)
42 M 74801 67 PATH
Vakas, John L., 1508 W. 4th, 67337
(251-3443)
38 M 1902 65 IM
White, Donald C., Coffeyville Memorial Hosp., 67337
(251-1200)
35 M 3515 65 R
Wilson, James W., Coffeyville Memorial Hosp., 67337
(251-1200)
26 M 3901 58 PATH

COLBY—913
(Northwest Kansas Society)

Dahl, Asher W., Colby Clinic, P.O. Box 28, 67701
(462-3333)
28 M 1902 58 FP
Hildyard, Victor H., II, Colby Clinic, P.O. Box 28, 67701
(462-3332)
47 M 702 73 FP
Marshall, George D., Colby Clinic, P.O. Box 28, 67701
(462-3333)
09 M 1902 36 FP
Regier, LaDonna M., Colby Clinic, P.O. Box 28, 67701
(462-3332)
47 F 1902 73 FP
Smith, Floyd L., Jr., Colby Clinic, P.O. Box 28, 67701
(462-3333)
20 M 1902 44 FP

COLDWATER—316
(Iroquis County Society)

Choudhury, M. Hasan, 139 E. Main, 67029
(582-2136)
46 M 16001 69 GS

COLUMBUS—316
(Cherokee County Society)

Belcher, George D., 114 W. Pine, Box 309, 66725
(429-2557)
34 M 1902 60 FP
Jones, Forrest H., 219 S. Kansas, 66725
(429-3744)
25 M 1902 54 FP

Pasimio, Roger S., 114 W. Pine, 66725
(429-2557)
38 M 74801 62 S

COLWICH—316
(Sedgwick County Society)

Lies, Barthel N., 67030
(796-1255)
11 M 2834 37 FP

CONCORDIA—913
(Cloud County Society)

Bray, Avis P., 1010 3rd Ave., 66901
(243-1560)
17 F 702 54 FP
Butt, Muhammad M., 1010 Third, 66901
(243-1560)
46 M 70401 69 GS
Fowler, Wayne L., 332 W. 8th, 66901
(243-1560)
23 M 1720 47 IM
Gelvin, E. Raymond, 835 W. 9th, 66901
(243-4677)
03 M 3005 27 OO
Hofer, DeWayne D., St. Joseph's Hospital, 66901
(243-1234)
36 M 1606 62 R
Kosar, Clarence D., P.O. Box 362, 66901
(243-3389)
98 M 1902 26 OO
Lawton, Marvin K., 1010 3rd Ave., 66901
(243-1560)
31 M 3005 58 GS
McComas, Marmaduke D., Jr., 11th & Washington Sts. 66901
(243-2511)
16 M 1902 43 U
Nelson, Paul L., 1010 3rd Ave., 66901
(243-1560)
27 M 1902 55 PD
Nixon, R. Roy, 519 Washington, 66901
(243-1263)
32 M 1643 57 R
Owensby, Lindell C., 222½ W. 6th, 66901
(243-3386)
21 M 2802 44 OPH
Ruzicka, Lawrence J., 1010 3rd Ave., 66901
(243-1560)
13 M 3005 40 ANES
Smith, Harvey S., 311 W. 10th, 66901
(243-1234)
13 M 2802 37 PATH
Stryker, Henry B., Jr., 717 First Ave., 66901
(243-3130)
19 M 3501 44 IM
Thornton, Foxhall P., 1010 3rd Ave., 66901
(243-1560)
25 8 5101 50 IM

COTTONWOOD FALLS—316
(Flint Hills Society)

McKee, Leo F., 66845
(273-6681)
16 M 1902 39 FP

COUNCIL GROVE—316
(Flint Hills Society)

Barker, Royal A., 221 Hockaday, 66846
(767-5126)
21 M 1902 53 FP
Blackburn, Robert W., 221 Hockaday, 66846
(767-5126)
22 M 1902 49 FP
Schultz, James E., 221 Hockaday, 66846
(767-5126)
26 M 1902 56 FP

CUNNINGHAM—316
(Wyandotte Society)

Albritten, Frank F., P.O. Box 177, 67035
(298-2542)
14 M 4101 38 OO

DENTON—913
(Northeast Kansas Society)

Yoder, Emerson D., 66017
(359-3375)
14 M 1902 49 FP

DERBY—316
(Sedgwick County Society)

McKerracher, Robert D., 400 N. Baltimore, 67037
(788-1779)
27 M 3901 55 FP
Moyer, Herman J., 200 S. Baltimore, 67037
(788-1484)
24 M 3901 55 FP

DeSOTO—913
(Johnson County Sociey)

Billingsley, John A., Jr., Box 476, 66018
(585-1177)
31 M 1902 54 FP
Johnson, Edgar W., Jr., 415 E. 2nd, 66018
(585-1177)
18 M 1902 42 IM

DIGHTON—316
(Southwest Kansas Society)

Von Leonrod, George, Jr., Box 146, 67839
(397-5314)
16 M 1902 43 FP

DODGE CITY—316
(Ford County Society)

Baum, Arnold H., 2020 Central, 67801
(225-1371)
16 M 2101 44 OBG
Boles, R. Dale, 2020 Central, 67801
(225-1371)
22 M 3901 53 PD
Brownrigg, Richard L., 2020 Central, 67801
(225-1371)
35 M 1902 61 U
Busch, Anthony B., 806 2nd Ave., 67801
(227-3141)
05 M 2002 31 FP

Conard, Clair C., 2020 Central, 67801
(225-1371)
27 M 1902 55 IM
Doak, Roger S., 2020 Central, 67801
(227-1371)
39 M 2834 65 R
Fry, Luther L., 2206 First Ave., 67801
(225-0523)
41 M 1902 67 OPH
Jambor, James J., 304 Hwy. 56 W-Suite 2, 67801
(227-3213)
20 M 2307 46 D
Johnson, Howell D., 2020 Central, 67801
(225-1371)
45 M 1902 71 IM
McCoy, Ronald, 806 2nd Ave., 67801
(227-3141)
19 M 3901 47 FP
McElhinney, Charles F., 2020 Central, 67801
(225-1371)
36 M 1902 62 GS
Mimoso, Jose J., 806 2nd Ave., 67801
(227-3141)
37 M 4201 61 OBG
Ohman, Richard J., 714 2nd Ave., 67801
(227-2106)
15 M 2407 41 GS
Schwartz, Eugene W., 617 2nd Ave., 67801
(225-4261)
24 M 1902 50 OPH
Shah, Indravadan S., 806 2nd Ave., 67801
(227-3141)
44 M 49523 70 IM
Speirs, Richard E., 2101 E. Crescent Dr., 67801
(227-6214)
10 M 1803 33 GS
Stockwell, Morgan U., 2020 Central, 67801
(225-1371)
24 M 1902 55 IM
Trekell, William V., 806 2nd Ave., 67801
(227-3141)
25 M 1902 52 GS
Williams, Evan R., 2020 Central, 67801
(225-1371)
25 M 1606 52 GS
Zacharias, Carl K., 2020 Central, 67801
(225-1371)
21 M 40707 47 ORS

DOUGLAS—316
(Sedgwich County Society)

Miller, Clyde W., RR #2, Box 206A, 67039
(775-6600)
09 M 2002 36 OO

EL DORADO—316
(Butler County Society)

Brian, Robert M., 123 N. Atchison, 67042
(321-1230)
02 M 1606 30 FP
Dellett, Kenneth B., 613 N. Main, 67042
(321-1910)
30 M 1902 55 OPH
Girod, Charles I., 123 N. Atchison, 67042
(321-4981)
11 M 4706 44 GS
Hammel, George W., 119 N. Jones, 67042
(321-2010)
08 M 1902 30 IM
Johnson, J. Harold, 119 N. Jones, 67042
(321-3430)
99 M 401 27 EENT
Kassebaum, Glen E., 123 N. Atchison, 67042
(321-2710)
98 M 1606 23 GS
Lowry, Ray F., 226 W. Central, 67042
(321-9122)
13 M 1902 45 GS
Overholser, Norman H., 119 N. Jones, 67042
(321-2010)
16 M 1902 41 FP
Page, Patrick B., 123 N. Atchison, 67042
(321-5630)
42 M 1902 68 TS
Proctor, Robert W., 119 N. Jones, 67042
(321-4550)
38 M 1902 63 FP
Shields, James M., Jr., 119 N. Jones, 67042
(321-2430)
18 M 4802 42 FP
White, Benjamin E., 119 N. Jones, 67042
(321-1450)
27 M 1902 54 FP
Williams, Gene V., 200 W. Ash, 67042
(321-6680)
23 M 1902 54 ENT

ELKHART—316
(Seward County Society)

Perido, Dominador T., P.O. Box 997, 67950
(697-2155)
44 M 74801 68 GS
Pulido, Quinton M., 449 Morton, 67950
(697-2155)
44 M 74801 68 GS

ELLINWOOD—316
(Barton County Society)

Law, Findley, Medical Arts Bldg., 67526
(564-2170)
22 M 1902 51 FP

ELLIS—913
(Central Kansas Society)

Surface, Gardner A., 1204 Washington, 67637
(726-4212)
02 M 1902 29 FP

ELLSWORTH—913
(Central Kansas Society)

Davis, George R., 308 Kingsley, 67439
(472-3121)
19 M 1902 44 GS

O'Donnell, H. St. Clair, 308 Kingsley, 67439
(472-3121)
93 M 2802 17 GS
Seitz, Joseph E., Jr., 308 Kingsley, 67439
(472-3121)
22 M 1902 46 FP

EMPORIA—316
(Flint Hills Society)

Bradley, H. Russell, 1601 State, 66801
(343-2900)
35 M 1902 62 FP
Brockhouse, John P., 1601 State, 66801
(343-2900)
31 M 1902 57 IM
Burgeson, Frank, 1601 State, 66801
(342-6989)
40 M 3005 65 OPH
Butcher, Thomas P., 1128 Lawrence, 66801
(342-0722)
05 M 1601 34 GS
Campbell, Edward G., 1601 State, 66801
(343-2900)
31 M 1902 61 FP
Coldsmith, Donald C., 1024 W. 12th, 66801
(342-7047)
26 M 1902 58 FP
Conard, Richard F., 2049 Huntington Rd., 66801
(342-7722)
16 M 1902 42 R
Davis, David R., 1038 Lawrence, 66801
(342-0646)
02 M 2101 28 PD
Funes, Carlos A., 1601 State, 66801
(342-7715)
42 M 13205 66 U
Gann, E. Lamonte, 1128 Lawrence, 66801
(342-3542)
07 M 2802 37 FP
Garcia, Gould C., 919 W. 12th, 66801
(342-2521)
32 M 3607 58 IM
Geitz, James M., 919 W. 12th, 66801
(342-2521)
46 M 1902 72 IM
Ginavan, Duane A., 1024 W. 12th, 66801
(342-5876)
35 M 1902 62 FP
Glenn, James N., 1130 Chestnut, 66801
(343-1191)
40 M 4804 66 ORS
Havenhill, Marshall A., II, 1601 State, 66801
(343-2900)
35 M 1902 61 OBG
Hopper, Charles R., 25 W. 5th, 66801
(342-2341)
17 M 1902 47 FP
Knecht, Stephen M., 2021 Fanestil Dr., 66801
(342-7722)
44 M 1902 70 R
Lohmeyer, Kenneth L., 1024 W. 12th, 66801
(342-6622)
18 M 1902 44 FP
Luedtke, Walter E., 2026 Canterbury Road, 66801
(342-6593)
18 M 5605 43 PATH
Miguelino, Oliver M., Newman Memorial Hosp., 66801
(342-7120)
35 M 74801 57 PATH
Morgan, John L., 919 W. 12th, 66801
(342-2521)
15 M 4101 40 IM
Neighbor, Ralph M., 1601 State, 66801
(343-2900)
46 M 1902 72 OBG
Parker, Joseph W., Jr., 1348 Frontier Way, 66801
(342-0886)
01 M 1902 45 OO
Parker, Wayne G., State Teacher's College, 66801
(343-1200) Ext. 224
27 M 1902 56 FP
Ryan, Edward J., 919 W. 12th, 66801
(342-2521)
12 M 1902 36 IM
Ryan, W. Scott, 1601 State, 66801
(343-2900)
47 M 1902 73 PD
Saul, F. William, Newman Memorial Hospital, 66801
(342-7722)
07 M 4113 40 R
Schellinger, Richard P., 1128 Lawrence, 66801
(342-0722)
22 M 3005 49 GS
Snowbarger, Marvin D., 1601 State, 66801
(343-2900)
29 M 1902 55 FP
Suthikant, Deja, 705 S. Commercial, 66801
(342-0548)
41 M 89103 66 P
Trimble, David P., 517 Merchant, 66801
(342-2572)
04 M 1902 32 OPH
Underwood, Charles C., 25 W. 5th, 66801
(342-2341)
07 M 1902 32 IM
VanderVelde, Stanley L., 1601 State, 66801
(343-2900)
16 M 1902 43 GS

ERIE—316
(Neosho County Society)

Bryan, Emery C., Rt. #2, 66733
(244-3339)
04 M 1902 32 OO
Weir, William C., 115 S. Main, 66733
(244-3771)
17 M 2501 42 FP

ESKRIDGE—913
(Flint Hills Society)

Walker, William H., Second & Cedar, 66423
(449-2301)
10 M 2401 38 IM

EUDORA—913
(Douglas County Society)

Holladay, Kenneth R., 101 W. 10th, 66025
(542-2345)
34 M 1902 58 FP

EUREKA—316
(Butler County Society)

Baird, C. Dryden, 202 N. Plum, 67045
(583-6608)
02 M 3901 27 OO
Basham, John H., 201 N. Main, 67045
(583-5554)
11 M 2802 36 FP

FORT SCOTT—316
(Bourbon County Society)

Akers, Guy I., 710 W. 8th, 66701
(223-3100)
20 M 1902 53 IM
Aldis, Henry, 710 W. 8th, 66701
(223-3100)
13 M 1902 41 OBG
Aldis, William, 710 W. 8th, 66701
(223-3100)
20 M 1902 44 GS
Basham, James J., 102 S. Judson, 66701
(223-4100)
14 M 1902 37 FP
Benage, John F., 710 W. 8th, 66701
(223-3100)
32 M 1902 58 OBG
Burke, James J., 710 W. 8th, 66701
(223-3100)
35 M 2834 61 IM
Chow, Stanley L. Y., Mercy Hospital, 66701
(223-2200)
18 M 24222 39 R
Dunshee, Carlyle M., 710 W. 8th, 66701
(223-3100)
32 M 1902 57 GS
Gettler, Dean T., 710 W. 8th, 66701
(223-3100)
31 M 1902 57 GS
Good, James T., Mercy Hospital, 66701
(223-2200)
21 M 2802 45 PATH
Irby, Addison C., 710 W. 8th, 66701
(223-3100)
05 M 1606 28 PD
Irby, Pratt, 710 W. 8th, 66701
(223-3100)
13 M 4705 36 U
McCann, Patrick E., 710 W. 8th, 66701
(223-3100)
28 M 1902 59 IM
McKenna, Michael J., 102 S. Judson, 66701
(223-4100)
38 M 1902 64 FP
Nelson, T. Eugene, 710 W. 8th, 66701
(223-3100)
41 M 1902 69 FP
Reeves, Charles S., 710 W. 8th, 66701
(223-3100)
37 M 1902 63 IM
Stone, Francis M., Jr., 710 W. 8th, 66701
(223-3100)
15 M 2101 41 ENT
Weddle, Douglas P., 710 W. 8th, 66701
(223-3100)
43 M 1720 69 FP

FORT LEAVENWORTH—913
(Leavenworth County Society)

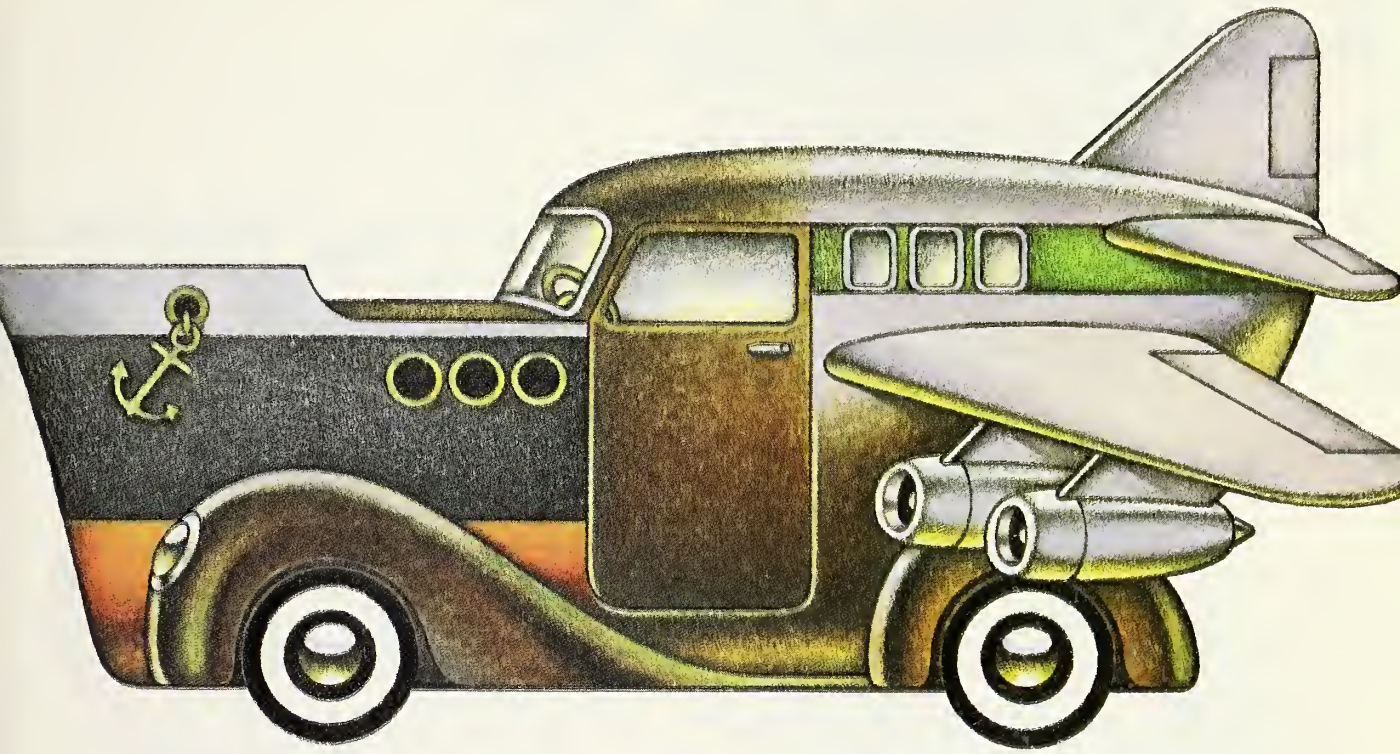
Allan, Michael A., 12 5th Artillery Rd., 66027
(684-4157)
41 M 3840 69 OTO

FREDONIA—316
(Southeast Kansas Society)

Bayles, Hugh G., 716 Madison, 67736
(378-3412)
25 M 1902 52 FP
Beal, Raymond J., 600 Madison, 66736
(378-2159)
12 M 1902 38 GS
Hayden, A. Mary, 617 Monroe, 66736
(378-2751)
88 F 1902 35 OO
Sumner, Ralph N., 712 Madison, 66736
(378-2311)
31 M 1902 57 FP

GARDEN CITY—316
(Southwest Kansas Society)

Austin, John O., 601 N. 6th, 67846
(276-2346)
14 M 1601 40 FP
Barnard, James A., 611 N. 5th, 67846
(275-9671)
31 M 4812 62 OBG
Beggs, David F., 609 N. 5th, 67846
(276-9211)
39 M 1902 64 IM
Bigler, F. Calvin, 611 N. 5th 67846
(275-9671)
31 M 801 57 S
Bruno, James W., 1133 Kansas Plaza, 67846
(276-8201)
40 M 4706 66 FP
Dickerson, Robert M., 609 N. 5th, 67846
(276-9211)
34 M 1902 64 IM
Eichhorn, Frank D., 719 Kansas Plaza, 67846
(276-8132)
25 M 1902 56 FP
Fenton, Robert M., 1133 Kansas Plaza, 67846
(276-8201)
20 M 1902 54 FP



On land, sea, and in the air...

Up to 24 hours of effective control with a single dose...in nausea, vomiting and dizziness associated with motion sickness.

Dosage: 25 to 50 mg. 1 hour before travel.

Available on prescription only.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

CONTRAINDICATIONS. Administration of Antivert during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

ROERIG Pfizer
A division of Pfizer Pharmaceuticals
New York, New York 10017

Antivert®/25 Chewable Tablets
(meclizine HCl) 25 mg.
for motion sickness

DYAZIDE®

Trademark

Each capsule contains 50 mg. of Dyrenium® (triamterene, SK&F Co.) and 25 mg. of hydrochlorothiazide.

MAKES SENSE FOR LONG-TERM CONTROL OF HYPERTENSION*



Before prescribing, see complete prescribing information in SK&F literature or *PDR*. The following is a brief summary.

* **Warning**
This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: **Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired.** Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

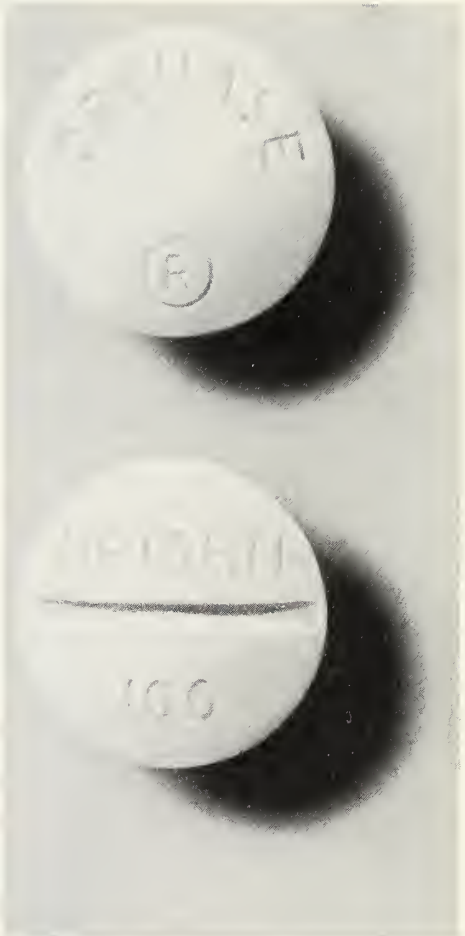
Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

Supplied: Bottles of 100 capsules; in Single Unit Packages of 100 (intended for institutional use only).

SK&F CO., Carolina, P.R. 00630
Subsidiary of SmithKline Corporation

TRIAMTERENE CONSERVES POTASSIUM WHILE HYDROCHLOROTHIAZIDE LOWERS BLOOD PRESSURE

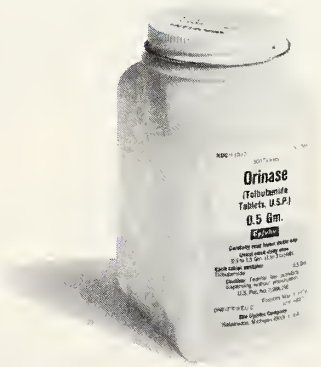
a new tablet design for



Orinase®

tolbutamide, Upjohn

0.5 Gm tablets



This new design will help pharmacists, physicians, nurses, and patients identify Orinase by name and manufacturer. The number on the tablet is for identification and is not related to tablet strength.

You may wish to advise your patients that this change is taking place.

J-5255-6

The Upjohn Company, Kalamazoo, Michigan 49001 Upjohn

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WHEN ANXIETY INTERFERES.

The cardiac patient and anxiety.



"The [cardiac] patient is anxious about minor symptoms, about the implications of his diagnosis, and about real or imagined limitations of function."*

The worst is over. The cardiac patient is out of the acute stage, out of the hospital, and well on his way to recovery. How quickly he comes back to near normal functioning may depend on his psychological as well as his physical rehabilitation.

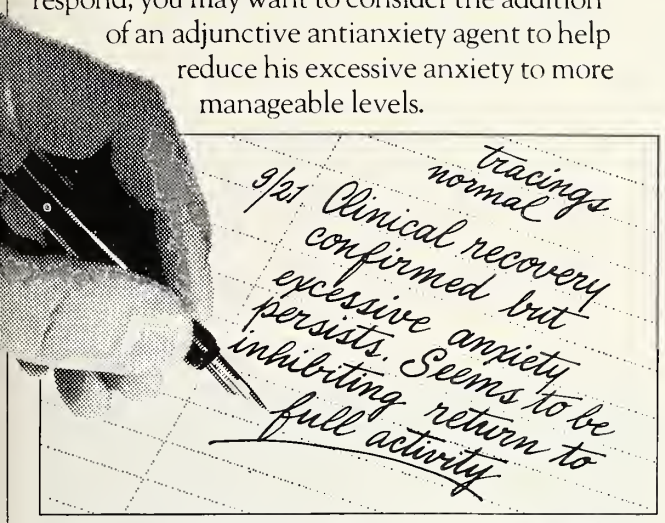
Clinical anxiety, for example, may be one reason for prolonged recuperation following cardiac healing. Yet anxiety can sometimes be beneficial in facilitating patient compliance.

The patient who is realistically concerned about resuming his precoronary functioning may be highly motivated to adhere to his rehabilitation regimen. However, the cardiac patient with *excessive* or unresolved anxiety may be so fearful of future heart failure that he refrains from your prescribed regimen. These excessively anxious cardiac patients eventually present the same clinical characteristics as patients deconditioned by bed rest.

Excessive anxiety can interfere with patient management

When excessive anxiety diminishes your

patient's ability to participate fully in his rehabilitation program, your counseling and reassurance are often sufficient. But when his anxiety is so great that it actually interferes with his ability to listen and respond, you may want to consider the addition of an adjunctive antianxiety agent to help reduce his excessive anxiety to more manageable levels.



Librium® (chlordiazepoxide HCl) an effective adjunct to your reassurance and counseling

Safety: Librium has a highly favorable benefits-to-risk ratio and a wide margin of safety. Because of its low incidence of side effects, it is regarded as one of the safest antianxiety agents available. And Librium does not adversely affect the cardiovascular system. See complete product information for warnings, precautions and adverse reactions.

Performance: Hundreds of clinical trials, thousands of published papers, and millions of patients comprise the record of performance for Librium.

Concomitant use: Of special significance in treating the cardiac patient already taking multiple agents is the fact that Librium is used concomitantly with most primary medications, such as cardiac glycosides, diuretics and antihypertensives.

*Zohman BL: *Geriatrics* 28:110-119, Feb 1973

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.

ROCHE

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

Adjunctive

LIBRIUM® IV

chlordiazepoxide HCl/Roche

5 mg, 10 mg, 25 mg capsules

THE ANXIETY-SPECIFIC

VISUAL FOCUS ON ACUTE GOUTY ARTHRITIS



Foot of patient with acute gouty arthritis as seen by conventional x-ray.



Scintiphotogram of same foot reflects inflammatory process.

The scintiphotograph on the right shows increased uptake of radiotechnetium polyphosphate in the metatarsophalangeal joint and the proximal interphalangeal joint of the great toe of a patient with acute gouty arthritis. This increased uptake probably results from increased vascularity in the affected areas.

For a more detailed description of scintiphotography, see "addendum" at right.

THERAPEUTIC FOCUS ON

CAPSULES, 25 mg and 50 mg

INDOCIN®

(INDOMETHACIN | MSD)

helps relieve pain and other symptoms of inflammation in acute gouty arthritis in selected patients

INDOCIN is a potent drug with anti-inflammatory, antipyretic, and analgesic properties. It should not be used in conditions other than those recommended. Although INDOCIN does not alter the progressive course of the underlying disease, in selected patients with acute gouty arthritis it has been found highly effective in relieving pain and in reducing fever, swelling, and tenderness.

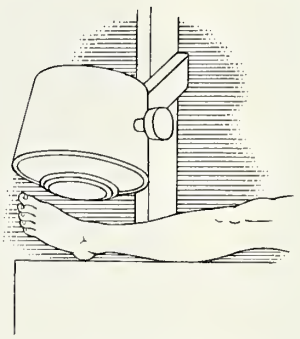
MSD
MERCK SHARP & DOHME

For a brief summary of prescribing information, please see following page.

addendum

MSD
MERCK SHARP & DOHME

Facts about Scintiphotography



In recent years a variety of radiopharmaceuticals have been employed to aid in the diagnosis of bone and joint disorders. The joint-imaging technique consists of injecting technetium polyphosphate intravenously, and imaging is performed with the scintillation camera two hours after the administration of the radionuclide. In general, for joint surveying, the shoulders, elbows, hands, wrists, knees, ankles, feet, and vertebral column are mapped. The entire scanning process takes approximately one hour. The criterion for a positive image is a higher concentration of radioactivity in a joint region than in adjacent nonarticular bone. In effect, each patient serves as his own control.

INDOCIN®
(INDOMETHACIN | MSD)



helps relieve pain
and other symptoms
of inflammation
in acute
gouty arthritis
in selected patients

IMPORTANT NOTE: INDOCIN (Indomethacin, MSD) cannot be considered a simple analgesic and should not be used in conditions other than those recommended. The drug should not be prescribed for children because safe conditions for use have not been established.

Because of the high potency of the drug and the variability of its potential to cause adverse reactions, the following are strongly recommended: 1) the lowest possible effective dose for the individual patient should be prescribed. Increased dosage tends to increase adverse effects, particularly in doses over 150-200 mg per day, without corresponding clinical benefits; 2) careful instructions to, and observations of, the individual patient are essential to the prevention of serious and irreversible, including fatal, adverse reactions, especially in the aging patient.

Contraindications: Children 14 years of age and under; pregnant women and nursing mothers; active gastrointestinal lesions or history of recurrent gastrointestinal lesions; allergy to aspirin or indomethacin.

Warnings: *Gastrointestinal Effects:* Because of the occurrence and, at times, severity of gastrointestinal reactions, be continuously alert for any sign or symptom signaling a possible gastrointestinal reaction. The risks of continuing therapy with INDOCIN in the face of such symptoms must be weighed against the possible benefits to the individual patient. Gastrointestinal effects may be reduced by giving the drug immediately after meals, with food, or with antacids. Use greater care in aging patients.

Ocular Effects: Corneal deposits and retinal disturbances, including those of the macula, have been observed in some patients on prolonged therapy. Discontinue therapy if such changes are observed. Ophthalmologic examination at periodic intervals is desirable in patients on prolonged therapy.

Central Nervous System Effects: INDOCIN may aggravate psychiatric disturbances, epilepsy, and parkinsonism, and should be used with considerable caution in patients with these conditions. If severe CNS adverse reactions develop, discontinue the drug.

Precautions: Blurred vision may be a significant symptom that warrants a thorough ophthalmologic examination. Patients should be cautioned about engaging in activities requiring mental alertness and motor coordination, as driving a car. Headache which persists despite dosage reduction requires complete cessation of the drug. May mask the usual signs and symptoms of infection; therefore, the physician must be continually on the alert for this and should use the drug with extra care in the presence of existing controlled infection. After the acute phase of the disease is under control, an attempt to reduce the daily dose should be made repeatedly until the patient is off entirely.

Drug Interactions: Although INDOCIN has not influenced the hypoprothrombinemia produced by anticoagulants, patients on anticoagulant therapy should be observed closely for alterations in prothrombin time. In patients receiving probenecid, plasma levels of indomethacin are likely to be increased and a lower total daily dose of INDOCIN may produce a therapeutic effect; increases in the dose of INDOCIN should be made cautiously and in small increments.

Adverse Reactions: *Gastrointestinal Reactions:* Single or multiple ulcerations of the esophagus, stomach, duodenum, or small intestine, including perforation and hemorrhage, with fatalities in some instances; rarely, intestinal ulceration has been associated with stenosis and obstruction; gastrointestinal bleeding without obvious ulcer formation; perforation of preexisting sigmoid lesions (diverticulum, carcinoma, etc.); rarely, increased abdominal pain in ulcerative colitis patients or development of ulcerative colitis and regional ileitis; gastritis may persist after the cessation of the drug; nausea, vomiting, anorexia, epigastric distress, abdominal pain, and diarrhea.

Eye Reactions: Corneal deposits and retinal disturbances, including those of the macula, have been observed on prolonged therapy; blurring of vision.

Hepatic Reactions: Rarely, toxic hepatitis and jaundice, including some fatal cases.

Hematologic Reactions: Aplastic anemia, hemolytic anemia, bone marrow depression, agranulocytosis, leukopenia, and thrombocytopenic purpura may occur rarely. Since some patients manifest anemia secondary to obvious or occult gastrointestinal bleeding, appropriate blood determinations are recommended.

Hypersensitivity Reactions: Acute respiratory distress, a rapid fall in blood pressure resembling a shock-like state, angioedema, dyspnea, asthma, angiitis, pruritus, urticaria, skin rashes, purpura.

Ear Reactions: Hearing disturbances—deafness reported rarely; tinnitus.

Central Nervous System Reactions: Psychic disturbances including psychotic episodes, depersonalization, depression, and mental confusion; coma; convulsions; peripheral neuropathy; drowsiness; lightheadedness; dizziness; syncope; headache.

Cardiovascular-Renal Reactions: Edema, elevation of blood pressure, hematuria.

Dermatologic Reactions: Loss of hair, erythema nodosum.

Miscellaneous: Rarely, vaginal bleeding, hyperglycemia, glycosuria, ulcerative stomatitis, and epistaxis.

Supplied: Capsules containing 25 mg indomethacin each, in single-unit packages of 100 and bottles of 100 and 1000; capsules containing 50 mg indomethacin each, in single-unit packages of 100 and bottles of 100.

For more detailed information, consult your MSD representative or see full prescribing information. Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pa. 19486

MSD MERCK SHARP & DOHME

Greenburg, George E., 2409 Belmont, 67846
(276-9586)
42 M 401 68 R
Heard, Kenneth M., St. Catherine Hosp., 67846
(275-6111)
21 M 4706 44 PATH
Hernandez, Alexander M., 608 N. 5th, 67846
(276-8141)
33 M 84704 59 P
Hunsberger, Terry, D.O., 509 N. 6th, 67846
(276-7646)
47 M 2840 72 FP
Jumper, Jerry L., D.O., 509 N. 6th, 67846
(276-7646)
42 M 2840 70 FP
Kalbac, Richard W., 603 N. 5th, 67846
(275-9671)
45 M 2803 70 OBG
Macy, Ted L., 603 N. 5th, 67846
(275-9671)
43 M 1902 71 GS
Maxfield, Russell J., 1133 Kansas Plaza, 67846
(276-8201)
16 M 1902 41 FP
Rodriquez, Paul L., 2116 Center, 67846
(275-6111)
39 M 4706 66 R
Schmidt, Ramon W., 611 N. 5th, 67846
(276-9211)
39 M 1902 65 GS
Spikes, Marion E., Box 1173, 67846
(275-9444)
26 M 1902 62 FP
Teare, Max E., 156 Garden Dale, 67846
(276-7689)
28 M 1902 54 P
Turner, John W., 210 E. Spruce, 67846
(276-3292)
13 M 1902 39 FP
Wiley, Horace M., 602 N. 6th, 67846
(276-6901)
12 M 2802 40 GS
Zeller, Myron J., 611 N. 5th, 67846
(275-9671)
38 M 1902 64 OM

GARDEN PLAIN—313
(Sedgwick County Society)

Biermann, Aloysius H., 67050
(535-2231)
99 M 3006 23 FP
Reinhardt-Wulf, Taissia L., P.O. Box 273
(838-3072)
19 F 91302 42 OO

GARDNER—913
(Johnson County Society)

Abdullah, Syed M., 615 E. Washington, 66030
(884-8711)
42 M 70401 65 GS
Moore, Chester E., 136 E. Main, 66030
(884-7822)
14 M 1902 51 FP
Reece, Adelbert S., 237 W. Main, 66030
(884-8221)
01 M 1902 29 OO
Reece, A. Thomen, 427 W. Main, 66030
(884-8711)
37 M 1902 63 FP
Reece, Carol A., 427 W. Main, 66030
(884-8711)
37 F 1902 63 PD

GARNETT—913
(Anderson County Society)

Dougherty, Thomas M., 117 W. 6th, 66032
(448-5421)
28 M 1902 55 FP
Harris, Claib B., Jr., 320 S. Oak, 66032
(448-5431)
17 M 1902 44 FP
Leitch, David A., 117 W. 6th, 66032
(448-5421)
38 M 1902 63 FP
Stevens, Mildred J., 202 W. 4th, 66032
(448-5454)
23 F 1902 47 FP
Stevens, Robert L., 202 W. 4th, 66032
(448-5454)
23 M 1902 47 FP

GIRARD—316
(Crawford County Society)

Friggeri, Robert W., 111 N. Summit, 66743
(724-8723)
23 M 1902 51 FP
Hall, Wesley H., 102 E. Forest, 66743
(724-8265)
25 M 1902 57 FP

GLASCO—913
(Cloud County Society)

Harwood, Claude J., Box 428, 67445
(568-2342)
25 M 1902 55 FP

GOESSEL—316
(Marion County Society)

Canellos, James, Goessel Clinic, 67053
(367-2205)
30 M 86902 62 FP
Ratzlaff, Abraham K., Goessel Clinic, 67053
(367-2205)
06 M 1902 33 FP

GOODLAND—913
(Northwest Kansas Society)

Austin, Kenneth D., 520 Main, 67735
(899-3633)
33 M 3005 63 FP
Bare, Lawrence E., 520 Main, 67735
(899-3633)
37 M 3901 70 FP
Olson, Clitus W., 520 Main, 67735
(899-3633)
16 M 3005 48 GS

Renner, Marion J., 417 West 9th, 67735
(899-5178)
96 M 1902 22 OO

GREAT BEND—316
(Barton County Society)

Anderson, Lyle B., 1017-A Jackson, 67530
(793-8141)
28 M 1902 60 FP
Beahm, Anol W., 3923 Broadway, 67530
(793-7827)
16 M 1902 43 FP
Brown, Reiff, 1400 Polk, 67530
(792-4391)
31 M 3901 57 ORS
Caple, Elbert M., 3515 Broadway, 67530
(792-2511)
34 M 1902 64 ANES
Cavanaugh, Clair J., 3515 Broadway, 67530
(792-2617)
23 M 1803 47 R
Copening, Tell B., 2111 Forest Ave., 67530
(793-3591)
43 M 1902 69 FP
Degner, James B., 3515 Broadway, 67530
(792-2617)
31 M 1902 57 R
Evans, William R., 3923 Broadway, 67530
(793-3574)
25 M 1902 53 FP
Fieser, Carl W., 3515 Broadway, 67530
(792-2617)
45 M 1902 71 R
Filbert, Charles G., 1400 Polk, 67530
(792-3681)
40 M 2879 65 OTO
Holt, John M., 2200 Lakin, 67530
(793-8429)
35 M 1902 61 IM
Jones, Edward L., 3515 Broadway, 67530
(792-2511)
35 M 1902 61 PATH
King, William T., 3414 Forest, 67530
(793-3501)
35 M 1902 61 OBG
Kirby, Merlin G., 1012 Washington St., 67530
(793-3091)
31 M 1902 56 GS
Krueger, Haven C., 1023 Jackson Sq., 67530
(792-2163)
32 M 1902 61 PD
Latimer, Lester A., 1560 K-96 Hwy, 67530
(792-2448)
84 M 2820 09 OO
Liggett, Byron T., 1723 Williams, 67530
(792-2814)
30 M 1902 63 N
McAllaster, Wendale E., 2111 Forest, 67530
(793-3591)
24 M 1902 54 GS
Niederee, W. Curtis, 1012 Washington, 67530
(793-3091)
30 M 3006 56 GS
Polson, Robert C., 1422 Polk, 67530
(793-8414)
17 M 1902 42 OPH
Replogle, Charles B., 2111 Forest, 67530
(793-3591)
27 M 1902 53 FP
Ruiz, Carlos M., 3107 12th, 67530
(792-3210)
25 M 27501 52 P
Russell, Homer B., 1912 17th St., 67530
(793-8124)
16 M 1606 42 GS
Sayler, Jerome, 3515 Broadway, 67530
(792-2511)
20 M 4113 50 PATH
Shivel, David G., 3523 Forest, 67530
(793-3523)
28 M 1902 55 FP
Swan, Major M., 3923 Broadway, 67530
(792-4540)
06 M 1902 43 IM
Unrein, Robert J., 1017-A Jackson, 67530
(792-2504)
29 M 1902 58 GP
White, Charles L., 2412 Dove Terr., 67530
(792-4763)
06 M 1902 36 OO
Wiggs, James W., 3515 Broadway, 67530
(792-2511)
36 M 1720 63 N

GREENSBURG—316
(Iroquois County Society)

Bradley, J. Roderick, 502 S. Walnut, 67054
(723-2127)
23 M 1902 47 FP
Waldorf, Melvin H., Jr., 502 S. Walnut, 67054
(723-2127)
23 M 1902 47 FP

HALSTEAD—316
(Harvey County Society)

Aillon, Alejandro J., Hertzler Clinic, 67056
(835-2241)
39 M 26402 63 TS
Bailey, Colin, Hertzler Clinic, 67056
(835-2241)
33 M 35205 59 GYN
Boudreaux, V. J., Jr., Hertzler Clinic, 67056
(835-2241)
37 M 48-12 64 R
Brandon, Jeffrey L., Hertzler Clinic, 67056
(835-2241)
43 M 4002 70 ORS
Burnett, A. Dean, Hertzler Clinic, 67056
(835-2241)
21 M 1902 52 GS
Decker, Donald D., Hertzler Clinic, 67056
(835-2241)
31 M 1902 56 CD
Gnau, Frederic B., Hertzler Clinic, 67056
(835-2241)
42 M 1902 68 OTO

Gradinger, Billens C., Hertzler Clinic, 67056
(835-2241)
06 M 1902 34 GE
Harms, Wilmer A., Hertzler Clinic 67056
(835-2241)
22 M 1902 56 OPH
Holt, Robert G., Hertzler Clinic, 67056
(835-2241)
22 M 5104 44 OPH
Hoofer, Wilford D., Hertzler Clinic, 67056
(835-2241)
30 M 1902 55 TS
Koeneke, Irene A., Hertzler Clinic, 67056
(835-2197)
98 F 2802 27 OO
Malone, Eugene M., Hertzler Clinic, 67056
(835-2241)
23 M 1902 56 IM
Montgomery-Short, Ruth, Hertzler Clinic, 67056
(835-2241)
10 F 1902 37 OTO
Morton, John E., Hertzler Clinic, 67056
(835-2241)
99 M 35211 26 P
O'Grady, Joseph A., Hertzler Clinic, 67056
(835-2241)
16 M 3545 41 IM
Pokorny, Charles, Hertzler Clinic, 67056
(835-2241)
08 M 2834 34 IM
Rate, Robert G., Hertzler Clinic, 67056
(835-2241)
14 M 1803 39 S
Rizza, Robert G., Hertzler Clinic, 67056
(835-2241)
30 M 1201 56 PD
Roach, Neil E., Hertzler Clinic, 67056
(835-2241)
38 M 1902 67 CHP
Shah, Sharfuddin, Hertzler Clinic, 67056
(835-2241)
31 M 70401 58 IM
Stoffer, Robert P., Hertzler Clinic, 67056
(835-2241)
26 M 1902 48 IM
Tan, Poly, Hertzler Clinic, 67056
(835-2241)
44 M 3901 69 P
Tejano, Neonilo A., Hertzler Clinic, 67056
(835-2241)
43 M 74808 67 ORS
Welch, Jack W., Hertzler Clinic, 67056
(835-2241)
18 M 1902 51 GS

HANOVER—913
(Northeast Kansas Society)

Warren, Roger D., Box 38, 66945
(337-2214)
31 M 1902 57 GS

HARPER—316
(Tri-County Society)

Bellar, Ralph E., Joslin Hospital, 67058
(896-3131)
31 M 3005 60 FP
Hostetler, George M., 1019 Central, 67058
(896-3131)
27 M 5104 59 FP

HAVEN—316
(Reno County Society)

Haines, Chester W., 102 Sunset Ln., 67543
(465-3338)
01 M 1606 28 OO

HAYS—913
(Central Kansas Society)

Allen, James E., 105 W. 13th, 67601
(625-2551)
46 M 1902 72 IM
Applegate, Francis R., 1010 Downing, 67601
(628-8218)
30 M 1902 55 OPH
Artman, John C., 111 W. 10th, 67601
(625-2518)
24 M 2002 48 FP
Bula, Ralph E., 105 W. 13th, 67601
(625-2551)
12 M 1902 37 A
Carlson, Earl V., 2818 N. Vine, 67601
(628-8221)
31 M 3005 56 ORS
Cecil, John, III, 203 W. 34th, 67601
(625-6521)
43 M 4804 69 R
Chavalithamrong, Hansa, 105 W. 13th, 67601
(625-2551)
45 M 89101 69 OBG
Cramm, Russell E., 111 W. 10th, 67601
(625-2518)
30 M 1902 56 GS
Eddy, Murray C., 2001 Lincoln Dr., 67601
(625-9633)
98 M 1601 26 OO
Eddy, Victor M., 105 W. 13th, 67601
(625-2551)
29 M 1902 55 GS
Enberg, Robert N., 105 W. 13th, 67601
(625-2551)
43 M 1902 69 PD
Flanders, H. Alden, 2901 Ash, 67601
(625-3441)
20 M 1902 44 IM
Haigler, James P., 234 W. 11th, 67601
(625-2537)
13 M 3006 39 FP
Halling, L. William, Hays Pathology Lab., 67601
(625-5646)
27 M 5002 57 PATH
Hilgers, Jack E., 105 W. 13th, 67601
(625-2551)
22 M 2802 47 GS

Hull, Norman E., 111 West 10th, 67601
(625-2518)
25 M 1902 52 FP
Hutchison, Glen C., 3200 Country Lane, 67601
(628-1160)
21 M 1902 50 ANES
Kane, William M., Jr., 105 W. 13th, 67601
(625-2551)
27 M 1001 54 OBG
Mattick, Irvin H., 2818 N. Vine, 67601
(628-8221)
18 M 2802 43 ORS
Medina, Anibal, 2705 Vine, 67601
(628-1019)
34 M 45101 62 U
Neil, Roy, Hays Path. Lab., 67601
(625-5646)
38 M 3005 65 PATH
Newcomb, Ward M., First National Towers, 67601
(625-5646)
47 M 3305 71 PATH
Reynolds, Jeffrey C., 412 First Natl. Bank Bldg., 67601
(625-7311)
39 M 1902 64 ENT
Reynolds, Lloyd W., 2110 Ash, 67601
(625-3249)
10 M 3840 34 OO
Siler, Eugene T., 1010 Downing, 67601
(628-8218)
24 M 1902 52 OPH
Stump, Harl G., 2717 Canal Blvd., 67601
(628-2826)
39 M 1902 65 GS
Tovar, Manuel H., 2717 Canal Blvd., 67601
(625-3457)
39 M 26404 67 FP
Watts, Harry E., 1010 Downing, 67601
(628-8218)
27 M 702 54 OPH
Wenzel, Anna M., 204 W. 17th, 67601
(625-3736)
95 F 1902 27 OO
Wiegman, Hugh A., 105 W. 13th, 67601
(628-1808)
34 M 1803 60 ENT
Wilcox, Howard L., Jr., 2818 Vine, 67601
(628-8221)
44 M 1902 70 ORS

HAYSVILLE—316
(Sedgwick County Society)

Morgan, Nova L., 301 W. Grand, 67060
(524-3275)
20 M 3901 50 FP

HERINGTON—913
(Dickinson County Society)

Dozier, Fred S., 4 West Main, 67449
(258-2215)
10 M 4804 34 ANES
Gilliland, James O., 4 W. Main, 67449
(258-2215)
08 M 3901 32 FP

HESSTON—316
(Harvey County Society)

Diener, Clayton H., 101 W. Vesper, 67062
(327-4122)
18 M 1902 54 GS
Friesen, Florence C., Schowalter Villa, 67062
(327-4867)
87 F 1611 14 OO

HIAWATHA—913
(Northeast Kansas Society)

Duckett, Thomas G., 314 Oregon, 66434
(742-2161)
10 M 1902 34 GS
Larson, Delbert L., 314 Oregon, 66434
(742-2161)
30 M 1803 64 FP
Lowe, DeWitt S., 202 S. 6th, 66434
(742-2117)
99 M 3006 28 FP
Meidinger, Ray, 120 N. 6th, 66434
(742-2135)
03 M 3005 32 FP

HIGHLAND—913
(Northeast Kansas Society)

Corder, Robert L., 66035
(442-3341)
23 M 1902 49 FP

HILL CITY—913
(Northwest Kansas Society)

Kobler, Carl D., 513 N. 10th, 67642
(674-2191)
23 M 1902 49 FP
Reddy, P. Jagannadha, 15 Walnut Dr., 67642
(674-2255)
42 M 49511 66 GS

HILLSBORO—316
(Marion County Society)

Ens, G. George, 613 S. Main, 67063
(947-5931)
20 M 1902 55 FP
Ens, Peter D., 202 S. Wilson, 67063
(947-3671)
14 M 1902 51 FP
Franz, Robert G., 704 S. Main, 67063
(947-3197)
33 M 3901 59 FP
Janzen, Herman F., 128 S. Main, 67063
(947-3171)
91 M 1902 35 OO
Loewen, Peter S., Salem Hospital, 67063
(947-3114)
91 M 1902 30 OO

HOISINGTON—316
(Barton County Society)

Moore, Robert, 814 N. Elm, 67544
(653-2151)
22 M 3901 53 FP

Wolfenbarger, Keith A., 351 W. 10th, 67544
(653-4145)
27 M 1902 58 FP

HOLTON—913
(Jackson County Society)

Moser, Ernest C., 824 Kansas, 66436
(364-3230)
09 M 1902 34 OO
Moser, M. Ross, 418 W. 5th, 66436
(364-3116)
19 M 1902 47 FP
Moser, Roy H., 801 Iowa, 66436
(364-3240)
04 M 1902 32 OO
Seeley, James C., 418 W. 5th, 66436
(364-3116)
34 M 1902 64 FP

HORTON—913
(Northeast Kansas Society)

Wood, Robert D., 1205 1st Ave. E., 66439
(486-2127)
26 M 1902 53 FP

HOXIE—913
(Northwest Kansas Society)

Neuenschwander, John R., 700 Main, 67740
(675-3292)
26 M 2802 51 FP
Neuenschwander, John Rand, 700 Main, 67740
(675-3292)
47 M 1902 72 FP

HUGOTON—316
(Seward County Society)

Frederick, Mac F., 104 W. 6th, 67951
(544-2784)
20 M 1902 44 FP
LeNeve, Robert T., 104 W. 6th, 67951
(544-2784)
21 M 3901 46 FP

HUMBOLDT—316
(Southeast Kansas Society)

Long, Edward E., 8th & New York, 66748
(473-2411)
21 M 1902 50 FP
Mih, Alexander W. S., 624 Bridge, 66748
(473-2227)
22 M 24209 47 FP

HUTCHINSON—316
(Reno County Society)

Adams, Marcus W., 1125 N. Main, 67501
(663-6121)
33 M 3901 59 PD
Albright, Jerold D., 1125 N. Main, 67501
(663-6121)
39 M 1902 66 FP
Anderson, David G., 1100 N. Main, 67501
(669-0191)
35 M 1602 61 ORS
Austin, George M., 1125 N. Main, 67501
(663-6121)
42 M 1720 68 U
Bauer, Thomas A., 1125 N. Main, 67501
(663-6121)
41 M 1902 67 IM
Bautts, Don R., 17 W. 2nd, 67501
(662-2305)
32 M 401 55 OPH
Blank, John N., 711 Wolcott Bldg., 67501
(663-4271)
07 M 1902 38 FP
Borra, Mario J., 1 W. 8th, 67501
(662-1751)
24 M 2401 47 U
Bos, Norman C., 2415 N. Main, 67501
(663-4406)
24 M 1611 47 ORS
Boyd, G. Bryant, 1100 N. Main, 67501
(663-1251)
44 M 3901 70 FP
Burger, J. Dale, 1125 N. Main, 67501
(663-6121)
21 M 1902 46 FP
Casady, Gilbert N., 39 Linksland Dr., 67501
(663-3657)
23 M 1902 53 ANES
Coker, Grady N., Jr., 1100 N. Main, 67501
(663-1146)
24 M 1201 54 OBG
Crawford, Robert A., 1125 N. Main, 67501
(663-6121)
16 M 1601 42 FP
Depenbusch, Francis L., 512 Wolcott Bldg., 67501
(663-7187)
38 M 1902 65 OPH
Eckart, DeMerle E., 312 Wolcott Bldg., 67501
(662-4921)
14 M 1902 40 P
Falter, Richard T., 512 Wolcott Bldg., 67501
(663-7187)
38 M 1902 67 OPH
Fernie, Robert W., 2100 N. Madison, 67501
(663-1136)
06 M 702 34 IM
Goodpasture, W. Carter, Willowbrook, 67501
(662-0478)
10 M 1602 36 OO
Hall, Clarence W., 101 W. 19th, 67501
(665-6912)
87 M 1606 11 OO
Hedrick, Kenneth E., 1125 N. Main, 67501
(663-6121)
27 M 1902 53 GS
Hill, John J., 519 Wiley Bldg., 67501
(662-1291)
16 M 1902 44 OTO

Hinshaw, Charles T., Jr., 725 N. Main, 67501
(662-7801)
32 M 1902 58 PATH
Hodes, Herbert C., 1100 N. Main, 67501
(663-1146)
43 M 1902 69 OBG
Holderman, Wallace D., 2415 N. Main, 67501
(663-4406)
28 M 1902 54 ORS
Jarrott, John B., 1100 N. Main, 67501
(669-0191)
16 M 1902 40 ORS
Jones, Sam, 517 32nd Terr., 67501
(662-6753)
13 M 2802 39 OO
Lettner, Hans T., 725 N. Main, 67501
(662-7801)
23 M 40716 49 PATH
Lukens, David, 1100 N. Main, 67501
(663-1136)
24 M 2307 48 IM
McCoy, Charles T., 310 Wolcott Bldg., 67501
(662-0121)
16 M 1902 41 OPH
McMullen, Joseph E., 1125 N. Main, 67501
(663-6121)
33 M 1902 62 GS
Mershon, H. Ruth, 308 W. 20th, 67501
(665-7291)
24 F 3901 49 ANES
Moe, Frederick H., 2100 N. Jackson, 67501
(663-2108)
31 M 40710 62 P
Moorman, Victor R., 521 Wiley Bldg., 67501
(662-4458)
15 M 1902 40 OTO
Mull, John C., 1125 N. Main, 67501
(663-6121)
34 M 1902 61 OBG
Neel, Wilbur B., 1125 N. Main, 67501
(663-6121)
24 M 1902 59 IM
Nunemaker, Marion E., 919 N. Main, 67501
(662-5391)
21 M 1902 46 ANES
Openshaw, Calvin R., 1100 N. Main, 67501
(662-3305)
21 M 4901 44 GS
Paine, George E., 220 W. 23rd, 67501
(662-7434)
94 M 1606 19 OO
Perkins, Jack L., 1125 N. Main, 67501
(663-6121)
24 M 1902 53 FP
Schroll, Jack C., 1125 N. Main, 67501
(663-6121)
24 M 1902 49 OBG
Shaw, James W., Jr., P.O. Box 1646, 67501
(662-7801)
40 M 1902 65 PATH
Shears, Robert N., 1100 N. Main, 67501
(662-3364)
20 M 1902 44 PD
Spitzer, Jerome S., 1100 N. Main, 67501
(663-1251)
33 M 3005 59 FP
Stafford, Robert W., 1125 N. Main, 67501
(663-6121)
43 M 2101 69 IM
Stensaas, Carl O., 401 Wolcott Bldg., 67501
(663-9147)
10 M 1902 38 D
Stout, James M., 815 E. 56th, 67501
(663-6121)
29 M 1902 55 FP
Sumner, Joyce R., 2703 N. Van Buren, 67501
(662-0822)
26 F 1902 51 ANES
Sumner, Marion M., 1125 N. Main, 67501
(663-6121)
26 M 1902 52 IM
Tarm, Felix, 1100 N. Main, 67501
(663-1136)
39 M 1803 65 IM
Taylor, Elwyn J., 1100 N. Main, 67501
(663-1251)
34 M 1902 61 FP
Tweito, David H., 1100 N. Main, 67501
(662-3364)
38 M 1803 64 PD
Von Ruden, William J., 1100 N. Main, 67501
(662-3305)
26 M 1611 52 GS
Wortman, Jack A., 1125 N. Main, 67501
(663-6121)
34 M 1902 62 IM

INDEPENDENCE—316
(Southeast Kansas Society)

Barbera, Porter E., 800 W. Chestnut, 67301
(331-4400)
19 M 4707 46 FP
Beahm, Edgar H., 307 Professional Bldg., 67301
(331-2311)
13 M 1902 44 FP
Bullock, Harold O., 219 W. Myrtle, 67301
(331-5550)
06 M 1902 33 IM
Chappuie, William G., 800 W. Chestnut, 67301
(331-5440)
24 M 1902 51 FP
Empson, Charles L., P.O. Box 848, 67301
(331-6019)
37 M 1902 68 FP
Knuth, Kenneth L., 313 Crestview Dr., 67301
(331-2200)
22 M 1902 50 R
Myers, Earl B., Jr., 800 W. Chestnut, 67301
(331-3420)
32 M 2803 64 S
Robinson, Edgar L., 209 N. 6th, 67301
(331-1450)
15 M 1902 42 FP

IOLA—316
(Allen County Society)

DeTar, George, 219 W. Madison, 66749
(365-3712)
28 M 1902 57 GS
Hanson, David C., 826 E. Madison, 66749
(265-2131)
46 M 512 73 FP
Lenski, Frank X., Jr., 206 S. Jefferson, 66749
(365-3901)
26 M 1606 49 FP
Myers, W. Eugene, 211 South St., 66749
(365-3732)
12 M 1902 46 FP
Pees, Gerald B., 219 W. Madison, 66749
(365-5175)
15 M 1902 43 FP
Schmaus, Lyle F., 202 E St., 66749
(365-3611)
99 M 1803 . 26 IM

JETMORE—316
(Ford County Society)

O'Shea, James G., Jr., Box 544, 67854
(357-8321)
18 M 3901 48 FP

JEWELL—913
(Mitchell County Society)

Plowman, Carl W., 66949
(428-3511)
99 M 1606 26 FP

JOHNSON—316
(Southwest Kansas Society)

Ramchandani, Ashok P., Box 460, 67855
(492-6230)
39 M 49555 64 FP

JUNCTION CITY—913
(Geary County Society)

Bollman, Charles S., Med. Clinic Bldg., 66441
(762-4575)
41 M 3901 66 GS
Brethour, Leslie J., 528 N. Jefferson, 66441
(238-4151)
13 M 3006 39 FP
Bunker, Herbert L., Jr., 1106 St. Mary's Rd., 66441
(238-5131)
20 M 1606 45 FP
Copeland, Gary A., Geary Community Hosp., 66441
(762-2387)
42 M 1902 68 R
Labhsetwar, S. A., Med. Clinic Bldg., 66441
(762-4147)
39 M 49528 64 OBG
Mace, Ronald D., 1106 S. St. Marys, 66441
(762-4884)
42 M 3901 74 FP
Minnick, Charles V., 602 N. Jefferson, 66441
(762-2051)
08 M 2105 35 FP
O'Donnell, Harry E., 1106 St. Mary's Rd., 66441
(762-4947)
14 M 4113 42 FP
Scott, Alex, 507 W. 6th, 66441
(238-2518)
23 M 5605 48 FP
Smiley, William A., 520 N. Jefferson, 66441
(238-4151)
85 M 1903 10 FP
Wright, Stanley E., 1106 S. St. Marys, 66441
(762-4884)
42 M 3901 74 FP

KANSAS CITY, KANSAS—913
(Wyandotte County Society)

Abdou, Nabih I., K.U. Med. Center, 66103
(831-6586)
34 M 33002 58 A
Abrams, William W., 1020 N. 25th, 66102
(281-0768)
06 M 1902 32 OO
Alexander, Charles E., 1703 N. 78th, 66112
(321-6670)
43 M 401 70 OBG
Alexander, Clyde W., 1514 N. 5th, 66101
(281-4380)
96 M 4707 23 FP
Algie, William H., 905 N. 7th, 66101
(281-2929)
02 M 1902 27 IM
Allen, Max S., K.U. Med. Center, 66103
(831-6988)
11 M 1902 37 IM
Allen, William R., 9201 Parallel, 66112
(334-4110)
22 M 1902 46 R
Amare, Mammo, K.U. Med. Center, 66103
(831-6031)
36 M 60501 61 IM
Arakawa, Kasumi, K.U. Med. Center, 66103
(831-6670)
26 M 57211 53 ANES
Arvanitakis, Constantine, K.U. Med. Center, 66103
(831-6990)
39 M 41802 65 IM
Asher, Marc A., K.U. Med. Center, 66103
(831-6130)
36 M 1902 62 ORS
Azarnoff, Daniel L., K.U. Med. Center, 66103
(831-6026)
26 M 1902 55 IM
Bass, Lewis N., 1975 N. 5th, 66101
(321-2320)
21 M 1902 45 PD
Beard, Charles A., 3838 Rainbow, #902, 66103
(362-2159)
51 M Medical Student

Becker, Leslie E., 600 Nebraska, 66101
(342-4010)
23 M 1003 46 U
Bettinger, Irene E. H., K.U. Med. Center, 66103
(831-6014)
41 F 4101 66 N
Bichlmeier, Franklin G., 115 S. 18th, 66102
(371-6800)
33 M 1902 58 TS
Bidwell, Jo Jeanne, K.U. Med. Center, 66103
(831-6464)
33 F 1902 66 P
Boggan, Michael D., 155 S. 18th, 66102
(371-6800)
40 M 1201 67 CDS
Bolinger, Robert E., K.U. Med. Center, 66103
(831-6022)
19 M 1902 43 IM
Bolton, Victor E., 155 S. 18th, 66102
(371-2020)
24 M 1902 48 OBG
Bone, Roger C., K.U. Med. Center, 66103
(831-6044)
41 M 401 67 PUD
Bosilevac, Fred N., 155 S. 18th, 66102
(342-4843)
16 M 1902 44 OPH
Boudet, Robert A., K.U. Med. Center, 66103
(831-6128)
36 M 1103 62 GS
Brackett, Charles E., K.U. Med. Center, 66103
(831-6117)
20 M 3501 44 NS
Brathwaite, Harold M., 10 N. James, 66101
(281-3815)
87 M 1003 FP
Brillhart, Maxine T., 1610 Washington Blvd., 66102
(321-4800)
15 F 1902 50 FP
Brown, Robert W., K.U. Med. Center, 66103
(831-5100)
23 M 1902 55 IM
Brymer, James F., K.U. Med. Center, 66103
(831-6015)
39 M 2501 65 CD
Buakham, Chana, K.U. Med. Center, 66103
(831-6670)
37 M 89102 62 ANES
Burger, William E., 355 New Brotherhood Bldg., 66101
(371-1017)
22 M 3006 51 GS
Burket, George E., Jr., K.U. Med. Center, 66103
(831-6907)
12 M 1902 37 FP
Cameron, William J., K.U. Med. Center, 66103
(831-6200)
29 M 2501 54 OBG
Carpenter, Paul R., 155 S. 18th, 66102
(371-6800)
24 M 1902 50 TS
Carter, Robert P., Jr., K.U. Med. Center, 66103
(831-6219)
40 M 3901 65 OBG
Cary, Larry J., 4148 Booth, 66103
(362-3083)
51 M Medical Student
Casteel, Charles K., 155 S. 18th, 66102
(342-7233)
34 M 3901 59 U
Chalian, Alexander R., 2648 Minnesota, 66102
(371-0307)
03 M 3509 37 ANES
Chang, C. H. Joseph, K.U. Medical Center, 66103
(831-6800)
29 M 58301 53 R
Chin, Tom D. Y., K.U. Med. Center, 66103
(831-7177)
22 M 2501 43 IM
Cho, Cheng T., K.U. Med. Center, 66103
(831-6336)
37 M 38501 62 PD
Chonko, Arnold M., K.U. Med. Center, 66103
(831-6969)
43 M 3840 69 NEP
Christian, Stanley J., 1003 Central, 66102
(371-1181)
18 M 1902 44 FP
Chun, Chung S., K.U. Med. Center, 66103
(831-6512)
30 F 58301 53 PD
Coale, Lloyd H., 5020 Greeley, 66104
(287-4748)
13 M 1902 43 OO
Cook, James D., K.U. Med. Center, 66103
(831-6031)
36 M 6505 60 HEM
Cooper, Leo F., K.U. Med. Center, 66103
(831-6766)
15 M 1902 53 FP
Couch, James R., Jr., K.U. Med. Center, 66103
(831-6970)
39 M 4804 65 N
Cox, Ira L., III, 155 S. 18th, 66102
(371-4343)
43 M 1902 68 DR
Cox, Wallace F., 1854 Minnesota, 66102
(321-1199)
30 M 1902 56 GS
Craig, Charles C., 3209 Francis Pl., 66103
(262-2573)
45 M 1902 71 ORS (Res)
Crist, Robert D., K.U. Med. Center, 66103
(831-6200)
36 M 1902 63 OBG
Crockett, Charles A., 155 S. 18th, 66102
(342-2200)
19 M 401 44 OPH
Culp, Louis M., 1645 Washington, 66102
(371-1077)
24 M 1902 53 FP

Darr, Richard B., 147 Apache Trail W., Lake Quivira, 66106
(341-8278)
42 M 3401 70 IM

Davis, Christopher G., 905 N. 7th, 66101
(321-9313)
09 M 1902 39 FP

Davis, James W., Jr., K.U. Med. Center, 66103
(861-4700)
33 M 4705 57 IM

Day, Hughes W., Bethany Hospital, 66102
(281-8856)
15 M 1902 39 CD

Deitz, Michael R., 155 S. 18th, 66102
(342-2222)
22 M 4101 58 OPH

Delp, Mahlon H., K.U. Med. Center, 66103
(831-6976)
03 M 1902 34 IM

Denner, J. Lee, K.U. Med. Center, 66103
(831-6400)
31 M 3501 60 P

Dick, Arthur R., K.U. Med. Center, 66103
(831-6970)
34 M 2301 65 N

Dickerson, Shelby C., K.U. Med. Center, 66103
(831-6015)
46 M 5101 72 IM (Res)

Diederich, Dennis A., K.U. Med. Center, 66103
(831-6981)
36 M 2834 61 IM

Diehl, Antoni M., K.U. Med. Center, 66103
(831-6311)
24 M 2604 47 PDC

Dudding, Burton A., K.U. Med. Center, 66103
(831-6302)
39 M 3520 64 PD

Dujovne, Carlos A., K.U. Med. Center, 66103
(831-6026)
37 M 13201 61 CP

Dunn, Marvin I., K.U. Med. Center, 66103
(831-6015)
27 M 1902 54 CD

Egea, Fernando M., 6013 Leavenworth Rd., 66104
(334-3400)
37 M 13206 62 P

Fainstat, Theodore, K.U. Med. Center, 66103
(831-6213)
29 M 6701 55 OBG

Fitzpatrick, M. Robert, 1610 Washington, 66102
(321-4800)
20 M 1803 44 FP

Floersch, Hubert M., 155 S. 18th, 66102
(371-2020)
08 M 1902 35 OBG

Forester, N. Preston, 600 Nebraska 66101
(371-1165)
44 M 1902 70 IM

Foret, John D., K.U. Med. Center, 66103
(831-6146)
26 M 1602 53 U

Foster, Frances M., 4th & State, 66101
(621-1088)
41 F 4707 67 FP

Fox, Howard A., K.U. Med. Center, 66103
(831-6337)
33 M 3501 62 PD

Francisco, Clarence L., 155 S. 18th, 66102
(371-6800)
09 M 1902 34 ORS

Francisco, W. David, 155 S. 18th, 66102
(371-6800)
21 M 1902 44 ORS

Friesen, Stanley R., K.U. Med. Center, 66103
(831-6108)
18 M 1902 43 GS

Gallehugh, Keith W., 155 S. 18th, 66102
(371-4343)
32 M 1902 57 R

Garth, Karen E., 2935 W. 43rd, 66103
(362-7276)
52 F Medical Student

Gilhousen, Frederic M., 1029 N. 32nd, 66102
(621-1066)
40 M 1902 66 ORS

Gilmore, Clarence A., 600 Nebraska, 66101
(321-6670)
31 M 4707 60 OBG

Godfrey, Robert G., K.U. Med. Center, 66103
(588-5371)
27 M 1902 58 RHU

Godfrey, William A., K.U. Med. Center, 66103
(831-6600)
38 M 1902 65 OPH

Goertz, Leo R., 155 S. 18th, 66102
(371-4343)
22 M 1902 52 R

Goldstein, Nathan, III, One Gateway Center, 66101
(831-5701)
45 M 1602 70 PD

Gollerkeri, Mohan P., K.U. Med. Center, 66103
(831-6031)
30 M 49516 52 HEM

Gonzalez, Giomar, K.U. Med. Center, 66103
(831-6800)
36 M 26404 61 R

Grantham, Jared J., K.U. Med. Center, 66103
(588-6983)
36 M 1902 62 NEP

Greenberger, Norton J., K.U. Med. Center, 66103
(831-6001)
33 M 3806 59 GE

Gripkey, Clarence A., 1501 Tauromee, 66102
(371-0117)
05 M 1902 30 OO

Gruendel, Richard A., 1029 N. 32nd, 66102
(281-5252)
29 M 1902 55 ORS

Gruendel, Virginia T., 6926 Garfield, 66102
(299-2787)
30 F 1902 55 FP

Gumucio, Mario L., 860 New Brotherhood Bldg., 66101
(321-4046)
30 M 64901 63 IM

Habersang, Rolf, K.U. Med. Center, 66103
(831-6324)
44 M 86901 70 PD

Hancock, Alan C., 9201 Parallel, 66112
(299-0130)
35 M 1902 65 FP

Hara, Glenn S., K.U. Med. Center, 66103
(831-6219)
43 M 502 69 OBG

Hardin, Creighton A., K.U. Med. Center, 66103
(831-6106)
18 M 5605 43 GS

Hartman, Charles R., K.U. Med. Center, 66103
(831-5551)
37 M 1902 66 END

Hartman, Gerald V., K.U. Med. Center, 66103
(831-7350)
20 M 1902 45 R

Haswell, Glenn L., K.U. Med. Center, 66103
(831-6200)
41 M 1001 67 OBG

Hathaway, Peter, K.U. Med. Center, 66103
(831-6043)
31 M 3503 60 IM

Hensleigh, Paul A., K.U. Med. Center, 66103
(831-6200)
39 M 1902 65 OBG

Hermreck, Arlo S., K.U. Med. Center, 66103
(831-7232)
38 M 1902 65 GS

Hiebert, Peter E., 155 S. 18th, 66102
(371-4343)
03 M 1902 34 R

Hinthorn, Daniel R., K.U. Med. Center, 66103
(831-6035)
41 M 1902 67 IM

Hodges, Glenn R., K.U. Med. Center, 66103
(831-6035)
41 M 1602 67 ID

Holbert, Lelond L., 1854 Minn., 66102
(321-3838)
15 M 1003 46 FP

Holdcraft, Jacquelyne, 480 New Brotherhood Bldg., 66101
(321-1161)
36 F 2105 63 OTO

Holleman, James F., Jr., D.O., 667 S. 55th, 66106
(287-1414)
38 M 2840 70 FP

Hollowell, Joseph G., Jr., K.U. Med. Center, 66103
(831-7179)
32 M 4501 59 PD

Holmes, Frederick F., K.U. Med. Center, 66103
(831-6987)
32 M 5404 57 IM

Holmes, Grace E., K.U. Med. Center, 66103
(831-6325)
32 F 5404 57 PD

Hoogstraten, Barth, K.U. Med. Center, 66103
(831-6029)
24 M 66001 55 IM

Hudson, Robert P., K.U. Med. Center, 66103
(831-7040)
26 M 1902 52 HM

Huerter, Quentin C., 771 New Brotherhood Bldg., 66101
(321-5370)
31 M 1902 59 OPH

Huff, John D., 1428 S. 32nd, 66106
(384-1630)
21 M 1902 52 FP

Humphrey, Loren J., K.U. Med. Center, 66103
(831-6101)
31 M 1611 56 GS

Hurwitz, Aryeh, K.U. Med. Center, 66103
(831-6026)
36 M 2802 61 IM

Huycke, M. Maureen, 1912 W. 37th, 66103
(432-8486)
51 F Medical Student

Ibarra, Richard C., 754 Pacific, 66101
(342-3969)
26 M 64902 57 FP

Ingram, John E., 1428 S. 32nd, 66106
(384-1630)
24 M 3006 56 FP

Innes, Robert C., 1818 Tauromee, 66102
(621-5335)
25 M 2802 49 R

Jacobs, David S., 1818 Tauromee, 66102
(621-5335)
31 M 2501 56 PATH

Jacobs, Rae R., K.U. Med. Center, 66103
(831-6131)
36 M 3506 62 ORS

Jahanian, Daryoush, 155 S. 18th, 66102
(371-2020)
40 M 51701 64 OBG

Jayaram, Marandapalli R., 6420 Parallel, 66102
(299-8000)
42 M 49509 65 PD

Jewell, William R., K.U. Med. Center, 66103
(831-6112)
35 M 1611 61 GS

Johnson, John E., 51 N. 12th, 66102
(281-8816)
17 M 4706 43 PATH

Jones, Herman H., 600 Nebraska, 66101
(342-4010)
25 M 4707 54 GS

Kalavsky, Steven M., K.U. Med. Center, 66103
(831-6326)
43 M 801 69 PD

Kalivas, James T., K.U. Med. Center, 66103
(588-6028)
38 M 502 63 D

Karnaze, Greg C., 1905 W. 42nd Ave., 66103
()
49 M Medical Student

Kauffman, Ralph E., K.U. Med. Center, 66103
(831-6324)
39 M 1902 65 PD

Keitges, Pierre W., K.U. Med. Center, 66103
(831-6710)
33 M 3006 57 PATH

Kelly, Charles R., K.U. Med. Center, 66103
(831-6795)
38 M 1902 64 PM

Kennedy, James A., K.U. Med. Center, 66103
(831-6000)
35 M 2834 61 IM

Kepes, John J., K.U. Med. Center, 66103
(831-7076)
28 M 47301 52 PATH

Kerby, Gerald R., K.U. Med. Center, 66103
(831-6044)
32 M 1902 58 PUD

Ketchum, Lynn D., K.U. Med. Center, 66103
(831-6143)
36 M 2101 60 PS

Kim, Jong M., K.U. Med. Center, 66103
(831-6670)
40 M 58302 64 ANES

King, Charles R., K.U. Med. Center, 66103
(831-6200)
47 M 1902 71 OBG (Res)

Kirchner, Fernando R., Lake Quivira, 66106
(831-6700)
30 M 64901 55 OTO

Kishore, Pulla R. S., K.U. Med. Center, 66103
(831-6800)
37 F 49521 62 R

Krantz, Kermit E., K.U. Med. Center, 66103
(831-6201)
23 M 1606 48 OBG

Krueger, Alan L., K.U. Med. Center, 66103
(831-6412)
41 M 1902 67 P

Kwee, Sioe T., 759 Vermont, 66101
(621-0700)
36 F 1720 63 PATH

Kyner, Joseph L., K.U. Med. Center, 66103
(831-5554)
34 M 1902 60 IM

Laing, Robert R., 155 S. 18th, 66102
(371-4301)
37 M 1643 61 GE

Lansky, Lester L., K.U. Med. Center, 66103
(831-6300)
33 M 2604 65 PDN

Lansky, Shirley B., K.U. Med. Center, 66103
(831-6400)
35 F 2604 60 PD

Laybourne, Paul C., Jr., Lake Quivira, 66106
(831-6475)
19 M 3509 44 CHP

Leake, Hunter C., III, K.U. Med. Center, 66103
(831-6300)
37 M 2105 63 PD

Lee, James G., Jr., 155 S. 18th, 66102
(371-2330)
18 M 1902 44 OBG

Lee, Kyo Rak, K.U. Med. Center, 66103
(831-6800)
33 M 58302 59 R

Lemoine, Albert N., Jr., K.U. Med. Center, 66103
(831-6600)
18 M 2802 43 OPH

Lindsley, Carol B., K.U. Med. Center, 66103
(831-6325)
41 F 5404 68 PD

Lindsley, Herbert B., K.U. Med. Center, 66103
(831-6586)
40 M 1902 66 RHU

Linshaw, Michael A., K.U. Med. Center, 66103
(831-6300)
40 M 4109 66 PD

Lipschitz, David A., K.U. Med. Center, 66103
(831-6937)
43 M 83601 66 HEM

Liu, Chien, K.U. Med. Center, 66103
(831-6035)
21 M 24217 47 PD

Lloyd, Harvey L., 3200 Strong, 66106
(831-1111)
08 M 1803 36 FP

Lowe, Bruce A., 8738 Switzer, 66214
(831-6000)
51 M Medical Student

Lowman, James T., K.U. Med. Center, 66103
(831-5701)
31 M 401 58 PD

Lukert, Barbara P., K.U. Med. Center, 66103
(831-5554)
34 F 1902 60 IM

Maddux, Bill D., 860 New Brotherhood Bldg., 66101
(321-4046)
46 M 1902 72 IM

Mangum, Wm. Barton, K.U. Med. Center, 66103
(831-6700)
48 M 3006 73 PATH (Res)

Mani, M. Mani, K.U. Med. Center, 66103
(831-6136)
37 M 49527 65 PS

Manley, Joseph W., 3700 North 27th, 66104
(371-3503)
42 M 1902 69 OBG

Mantz, Frank A., Jr., K.U. Med. Center, 66103
(831-7070)
12 M 4101 38 PATH

Martin, Norman L., K.U. Med. Center, 66103
(831-6800)
36 M 1902 63 R

Marvin, Norman G., K.U. Med. Center, 66103
(831-6394)
29 M 1902 56 FP

Masters, Frank W., K.U. Med. Center, 66103
(831-6142)
20 M 3545 45 PS

Mathewson, Hugh S., K.U. Med. Center, 66103
(831-6675)
21 M 1902 44 ANES

Mattioli, Leone, K.U. Med. Center, 66103
(831-6311)
32 M 56115 56 PDC

McCarthy, Robert P., 155 S. 18th, 66102
(342-7233)
25 M 2834 53 U

McCusker, Kevin T., 2011 Federal, 66103
(432-9091)
51 M Medical Student

McSwain, Norman E., Jr., K.U. Med. Center, 66103
(831-6111)
37 M 102 63 GS

Mebust, Winston K., K.U. Med. Center, 66103
(831-6148)
33 M 5404 58 U

Medearis, Donald N., 2200 Grandview Blvd., 66102
(371-6787)
01 M 2401 27 OO

Meek, Joseph C., Jr., K.U. Med. Center, 66103
(831-6023)
31 M 1902 57 IM

Mesina, Rolando R., 1102 Minnesota Avenue, 66102
(381-3829)
37 M 74801 61 GS

Miller, Herbert C., K.U. Med. Center, 66103
(831-6302)
07 M 801 34 PD

Moeller, Donald B., 155 S. 18th, 66102
(371-4301)
34 M 1902 60 GE

Moffat, Robert E., K.U. Med. Center, 66103
(831-6800)
42 M 1902 68 R

Moore, Wayne V., K.U. Med. Center, 66103
(831-6336)
42 M 2604 70 PD

Morantz, Robert A., K.U. Med. Center, 66103
(831-1669)
42 M 3509 67 NS

Morffi, Raul R., 5411 Leavenworth Rd., 66104
(287-8300)
25 M 27501 51 IM

Morgan, Candice A., K.U. Med. Center, 66103
(831-5000)
46 F Med. Student

Morrison, Richard A., K.U. Med. Center, 66103
(831-6815)
34 M 1902 60 R

Mullen, Clifford J., Sr., 1409 Minnesota, 66102
(342-8392)
98 M 3006 23 OPH

Mullen, Clifford J., Jr., 1409 Minnesota, 66102
(342-8392)
38 M 1902 64 OPH

Nason, Herbert M., 1225 N. 78th, 66112
(299-1616)
30 M 1902 56 FP

Neff, James R., K.U. Med. Center, 66103
(831-6198)
40 M 1902 66 ORS

Neighbor, Ernest G., 1420 S. 42nd, 66106
(831-1100)
06 M 1902 33 FP

Neighbor, Gaylord P., 1420 S. 42nd, 66106
(831-1100)
13 M 1902 41 FP

Nohe, Philip C., 266 New Brotherhood Bldg., 66101
(321-4422)
17 M 1902 42 ORS

Norris, Charley W., K.U. Med. Center, 66103
(831-6700)
33 M 1902 64 OTO

Nothnagel, Arnold F., 1610 Washington, 66102
(342-1100)
15 M 1902 39 GS

O'Dell, Michael L., Bldg. 11, 1100 County Line Rd., 66103
(362-4945)
51 M Med. Student

Oldfield, Ray W., 6111 Leavenworth Road, 66104
(334-6200)
45 M 1902 72 FP

Pardo, Lillian G., K.U. Med. Center, 66103
(831-6373)
39 F 74807 62 PDN

Pardo, Manuel P., K.U. Med. Center, 66103
(831-6464)
35 M 74801 62 P

Park, Chan H., K.U. Med. Center, 66103
(831-6029)
36 M 58302 62 IM

Parmley, Ray T., K.U. Med. Center, 66103
(831-6670)
19 M 2101 44 ANES

Parra, Miguel D., 6013 Leavenworth Rd., 66104
(299-2088)
37 M 84710 64 FP

Pazell, John A., 155 South 18th St., 66102
(371-6800)
40 M 2501 66 ORS

Penka, Wayne E., K.U. Med. Center, 66103
(831-7091)
46 M 3006 72 PATH (Res)

Perry, Lawrence L., Jr., 4125 Rainbow Blvd., 66103
(831-6522)
34 M 1902 59 FP

Pfeffer-Hurwitz, Judith, 36th & Eaton, 66103
(831-9500)
34 F 3806 59 CHP

Peters, Glenn R., 155 S. 18th, 66102
(371-6800)
12 M 1902 37 GS

Pierce, George E., K.U. Med. Center, 66103
(831-6115)
33 M 2307 60 TS

Pilchard, William A., K.U. Med. Center, 66103
(831-6600)
39 M 1602 65 OPH

Pingleton, William W., K.U. Med. Center, 66103
(831-6044)
42 M 3901 67 PUD
Pischke, Frank J., 480 New Brotherhood Bldg., 66101
(321-1161)
36 M 1902 62 OTO
Pol, P. Albert, K.U. Med. Center, 66103
(831-6464)
36 M 84710 67 P
Polland, Stephen M., D.O., K.U. Med. Center, 66103
(831-6044)
39 M 2840 68 PUD (Res)
Porter, David M., 4517 Troup, 66102
(287-8800)
39 M 4707 64 PD
Potter, Robert L., 51 N. 12th, 66102
(621-6361)
38 M 1902 64 IM
Powers, G. Robert, 9201 Parallel, 66112
(299-0130)
33 M 1902 65 FP
Preston, David F., K.U. Med. Center, 66103
(831-6810)
33 M 3841 59 NM
Pretz, James B., 1610 Washington, 66102
(342-2442)
24 M 1902 47 FP
Proud, G. O'Neil, K.U. Med. Center, 66103
(831-6700)
13 M 2802 39 OTO
Pugh, David M., K.U. Med. Center, 66103
(831-6015)
29 M 801 58 CD
Rau, Jerold M., K.U. Med. Center, 66103
(831-6028)
39 M 1902 65 D
Reckling, Frederick W., K.U. Med. Center, 66103
(831-6129)
34 M 3545 59 ORS
Reddy, Eashwer K., K.U. Med. Center, 66103
(831-7350)
44 M 49597 68 R
Redford, John W. B., K.U. Med. Center, 66103
(831-6791)
28 M 6501 53 PM
Reeve, Arnold M., 619 Ann Avenue 66107
(321-4803)
18 M 2507 50 PH
Regier, Henry L., 2000 Washington Blvd., 66102
(371-1190)
81 M 1902 07 GS
Rettenmaier, Albert J., 251 N. 15th St., 66102
(371-2959)
96 M 3006 26 OO
Rhodes, James B., K.U. Med. Center, 66103
(831-6019)
28 M 1902 58 GE
Rhodes, Martin L., 1969 N. 33rd, 66104
(321-0341)
47 M 1902 71 IM
Rice, Fred A., Jr., 1029 N. 32nd, 66102
(621-1066)
36 M 4802 63 ORS
Rick, Gregory G. P., Jr., 155 S. 18th, 66102
(371-6800)
40 M 1902 66 GE
Riley, Ray B., 2020 Orville Ave., 66102
(281-1013)
06 M 1902 36 OO
Rising, Jesse D., K.U. Med. Center, 66103
(831-7130)
14 M 1902 38 IM
Roberts, Fred F., K.U. Med. Center, 66103
(831-6834)
32 M 3806 57 R
Robinson, David W., K.U. Med. Center, 66103
(831-6136)
14 M 4101 38 PS
Robinson, Ralph G., K.U. Med. Center, 66103
(831-6810)
37 M 1902 62 R
Robison, James T., K.U. Med. Center, 66103
(831-6600)
21 M 4812 45 OPH
Rook, Lee E., 4116 Strong, 66106
(831-2834)
09 M 1902 38 FP
Rosenfeld, Warren N., K.U. Med. Center, 66103
(831-6302)
43 M 3519 69 PD
Roth, Alan E., 51 N. 12th St., 66102
(281-8814)
35 M 1902 62 PATH
Rubin, Ben, Jr., 132 South 17th, 66102
(371-2561)
37 M 3005 61 PD
Ruth, William E., K.U. Med. Center, 66103
(831-6044)
26 M 1902 53 IM
Ryan, Michael J., 764 New Brotherhood Bldg., 66101
(342-7070)
14 M 2834 37 OTO
Sales, Harvey N., K.U. Med. Center, 66103
(831-5000)
46 M 4101 71 N (Res)
Santiago, Eleanor M., K.U. Med. Center, 66103
(831-6044)
38 F 74801 61 IM
Savin, Michael A., K.U. Med. Center, 66103
(831-6935)
44 M 4112 69 HEM
Savin, Virginia J., K.U. Med. Center, 66103
(831-6969)
44 F 4112 70 IM
Schaum, Stephen P., 4517 Troup, 66102
(287-8800)
44 M 1902 70 PD
Schimke, R. Neil, K.U. Med. Center, 66103
(831-6043)
35 M 1902 62 IM

Schloerb, Paul R., K.U. Med. Center, 66103
(831-6110)
19 M 3545 44 GS

Schotland, Edward S., 1300 N. 78th, 66112
(334-5250)
36 M 86901 66 D

Schrepfer, Rosemary, K.U. Med. Center, 66103
(831-6200)
22 F 1902 47 OBG

Sereres, Edgar P., 662 New Brotherhood Bldg., 66101
(321-2501)
15 M 1902 39 A

Sherman, Robert P., 9201 Parallel Ave., 66109
(334-0040)
34 M 1902 63 PUD

Sibala, Justo L., K.U. Med. Center, 66103
(831-6831)
20 M 74802 49 R

Sifers, Earl C., 155 S. 18th, 66102
(371-2900)
24 M 1902 47 GS

Silvers, Alvin, 1702 Southwest Blvd., 66103
(236-9691)
18 M 1902 45 FP

Snow, Arthur D., Jr., K.U. Med. Center, 66103
(383-1754)
45 M Medical Student

Sosnow, William, K.U. Med. Center, 66103
(831-6516)
35 M 3509 65 IM

Soucek, Charles D., 2807 Ohio, 66102
(371-4343)
31 M 3005 56 R

Spaulding, John S., K.U. Med. Center, 66103
(831-5900)
29 M 1602 59 PD

Speer, Leland, 1022 Hoel Parkway, 66102
(321-1040)
12 M 1902 36 PD

Stechschulte, Daniel J., K.U. Med. Center, 66103
(831-6008)
36 M 2834 62 IM

Steele, Clarence H., 480 New Brotherhood Bldg., 66101
(321-1161)
14 M 1902 40 OTO

Steinzeig, Sherman M., 155 S. 18th, 66102
(621-1151)
25 M 1902 52 CD

Stephens, Ronald L., K.U. Med. Center, 66103
(831-6029)
39 M 1902 65 IM

Stevenson, Charles E., K.U. Med. Center, 66103
(831-6670)
19 M 1902 44 ANES

Stitt, Ronald W., 155 S. 18th, 66102
(342-7233)
21 M 1902 45 U

Stotts, Stephen S., 6557 High Dr., 66111
(831-6670)
42 M 1902 68 ANES

Stout, Carl N., Jr., K.U. Med. Center, 66103
(831-6600)
44 M 2803 70 OPH (Res)

Streib, Erich W., K.U. Med. Center, 66103
(831-6970)
40 M 40919 67 N

Strick, Frank J., 1003 Central, 66102
(371-6841)
17 M 1902 48 FP

Stubblefield, Charles T., 155 S. 18th, 66102
(371-2330)
32 M 1902 58 OBG

Taylor, Thomas L., 155 S. 18th, 66102
(371-2900)
40 M 1902 66 GS

Templeton, Arch W., K.U. Med. Center, 66103
(831-6805)
32 M 3005 57 R

Therou, Leona F., K.U. Med. Center, 66103
(831-6302)
41 F 6701 67 PD

Thomas, James H., K.U. Med. Center, 66103
(831-5901)
41 M 2012 66 GS

Thompson, Dannie M., One Gateway Center, 66101
(321-3355)
35 M 4707 64 OBG

Toalson, William B., 155 S. 18th, 66102
(371-3515)
37 M 1902 63 CD

Tretbar, Lawrence L., 155 S. 18th Street, 66102
(371-7650)
33 M 1902 60 GS

Trueworthy, Robert C., K.U. Med. Center, 66103
(831-6340)
40 M 2802 66 PD

Tubis, Stuart H., K.U. Med. Center, 66103
(831-6463)
39 M 506 66 P

Tucker, Sheridan G., 3838 Rainbow, Apt. 1109, 66103
(262-2906)
50 M 1902 75 IM (Res)

Ueda, Issaku, K.U. Med. Center, 66103
(831-6670)
24 M 57220 48 ANES

Unger, James L., K.U. Med. Center, 66103
(831-7070)
46 M 519 71 PATH (Res)

Valk, William L., K.U. Med. Center, 66103
(831-6146)
09 M 2501 37 U

Vats, S. Tribhawan, K.U. Med. Center, 66103
(831-6340)
40 M 49529 63 PD

Villanueva, Cesar L., K.U. Med. Center, 66103
(831-6218)
39 M 74802 65 OBG

Waddell, Bill D., 155 S. 18th, 66102
(321-0386)
31 M 3901 56 IM

Waldby, Gail E., 2622 Essex, 66103
(432-1559)
49 F Medical Student

Walker, Jack D., K.U. Med. Center, 66103
(831-6510)
22 M 1902 53 FP
Walker, Maurice A., 1417 S. 37th St., 66106
(831-1433)
04 M 1601 28 GS
Waxman, David, K.U. Med. Center, 66103
(831-5207)
18 M 3515 50 IM
Werth, Claude J., 9201 Parallel Pkwy., 66112
(334-0040)
37 M 1902 64 P
West, C. Omer, 414 Huron Bldg., 66101
(371-3572)
92 M 1902 23 D
White, James R., 9201 Parallel, 66112
(299-0130)
37 M 3901 64 FP
Wilson, Sloan J., K.U. Med. Center, 66103
(831-6000)
10 M 1902 36 IM
Winter, Calvert J., 132 S. 17th, 66102
(371-2561)
22 M 1902 47 PD
Witt, Richard F., 1064 Forest Ct., 66103
(236-6453)
41 M Medical Student
Wolf, Karl T., 621 Northrup Ave., 66101
(333-4575)
14 M 1902 48 OO
Wolkoff, A. Stark, K.U. Med. Center, 66103
(831-6200)
21 M 4109 50 OBG
Wong, Bert Y., K.U. Med. Center, 66103
(831-6015)
40 M 801 65 CD
Wright, Robert W., 669 New Brotherhood Bldg., 66101
(371-5344)
24 M 1902 48 GS
Youngstrom, Karl A., 6 Arapaho Lane, Lake Quivira, 66106
(631-8536)
08 M 3607 44 OO
Yulich, John O., 1428 S. 32nd, 66106
(384-1630)
33 M 1902 59 FP
Zakheim, Richard M., K.U. Med. Center, 66103
(831-6311)
37 M 3546 62 PDC
Ziegler, Dewey K., K.U. Med. Center, 66103
(831-6970)
20 M 2401 45 N
Zinn, Thomas W., K.U. Med. Center, 66103
(371-4343)
41 M 1902 67 R

KANSAS CITY, MISSOURI—816

Barry, John W., 4620 J. C. Nichols Pkwy., 64112
(753-4011)
22 M 1902 46 R
Calkins, W. Graham, V.A. Hospital, 64128
(861-4700)
26 M 2501 50 GE
Coulter, Thomas B., 4620 J. C. Nichols Pkwy., 64112
(931-0833)
38 M 1205 64 OPH
Cronemeyer, Richard L., 212 W. 78th Terr., 64114
(361-2317)
52 M Medical Student
Cross, Donald E., 4801 Linwood Blvd., 64128
(861-4700)
38 M 2803 65 IM
Crouch, Steven W., 6529 Edgevale Rd., 64113
(444-9806)
51 M 1902 76 PD (Res)
Davis, James W., Jr., 4801 Linwood Blvd., 64128
(861-4700)
33 M 4705 57 IM
Garcia, Francisco M., 2316 E. Meyer, 64132
(276-4000)
32 M 27501 60 FP
Hannah, Hamner, III, Menorah Med. Center, 64110
(276-8250)
39 M 5105 60 TS
Henderson, John M., 4130 Bell St., 64111
Medical Student
Huffman, David H., V.A. Hosp., 64128
(861-4700)
41 M 1902 67 IM
Isenberger, Robert M., 645 W. 61st, 64113
(444-1768)
98 M 3806 25 OO
Johns, Leo E., Jr., V.A. Hospital, 64128
(861-4700)
22 M 2101 45 PUD
Lewis, H. Daniel, Jr., 4801 Linwood Blvd., 64128
(861-4700)
32 M 5101 58 CD
Ma, Frank H., 6644 Cherry, 64131
(361-9586)
48 M 401 72 IM
Powell, Kenneth A., 3520 Broadway, 64111
(753-7000)
25 M 1902 53 IM
Radom, Sanford B., 4620 J. C. Nichols Pkwy., 64112
(753-4011)
40 M 1642 66 R
Richert, Robert C., 504 W. 96th, 64114
(722-3100)
23 M 1902 46 PATH

KINGMAN—316
(Pratt-Kingman Society)

Boyer, Robert E., 349 N. Main, 67068
(532-3171)
36 M 1902 62 FP

KINSLEY—316
(Edwards County Society)

Atwood, M. Dale, 616 Niles, 67547
(659-2114)
19 M 1902 51 FP
McKim, W. Lynn, 109 W. 8th, 67547
(659-2114)
33 M 1902 59 FP

Schnoebelen, René E., 807 E. 4th, 67547
(659-2141)
16 M 3901 41 GP

KIOWA—316
(Tri-County Society)

Christensen, Marion D., 802 Drumm, 67070
(825-4121)
25 M 3901 52 FP

LA CROSSE—913
(Central Kansas Society)

Serrano, Joaquin, 817 Locust, 67548
(222-2564)
29 M 27501 56 FP

LANSING—913
(Leavenworth County Society)

Rouse, Paul H., Med. Dir., State Prison, 66043
(727-3235)
35 M 1902 63 ADM
Snow, Donald L., Holiday Plaza, 66043
(727-3204)
21 M 64904 54 OBG

LARNED—316
(Pawnee County Society)

Blount, Justin A., 621 W. 5th, 67550
(285-2843)
94 M 1902 21 OO
Brenner, William R., 804 Carroll, 67550
(285-3133)
15 M 3006 39 FP
Cram, Ole R., Jr., 722 Mann, 67550
(285-2141)
18 M 1902 43 FP
Davis, David H., 815 W. 6th, 67550
(285-2131)
04 M 1902 30 P
Ewing, Thomas D., 804 Carroll, 67550
(285-3133)
22 M 1902 46 FP
Patterson, Alice W., Box 7, 67550
(285-3636)
13 F 1902 38 OO
Patterson, Harold L., Box 7, 67550
(285-3636)
13 M 1902 38 OPH
Shepard, LeRoy W., 603 W. 5th, 67550
(285-2023)
04 M 3006 30 OO
Smith, John D., 804 Carrol, 67550
(285-3133)
22 M 3901 51 GP

LAWRENCE—913
(Douglas County Society)

Anderson, Winstan L., 3603 W. 10th, 66044
(843-4455)
09 M 1902 34 GS
Auchard, Virgil M., 2126 Louisiana, 66044
(843-2433)
89 M 1902 23 OO
Bailey, William A., 404 Maine, 66044
(843-9125)
40 M 1902 66 ORS
Bell, Margaret E., 930 Iowa, 66044
(841-3535)
37 F 1902 63 CHP
Belot, Monti L., Jr., Lawrence Natl. Bk. Bldg., 66044
(843-3640)
13 M 1902 40 FP
Blair, Richard, 404 Maine, 66044
(842-3635)
34 M 1902 60 IM
Boyden, Mary S., 346 Maine, 66044
(842-3778)
14 F 2604 39 PDA
Branson, Vernon L., 4th & Maine, 66044
(842-4477)
17 M 1902 42 PD
Bray, E. Dean, 346 Maine, 66044
(842-5070)
29 M 1902 60 FP
Buck, Henry W., Jr., 4th & Maine, 66044
(843-0677)
34 M 1902 60 OBG
Button, Jesse H., 930 Iowa, 66044
(841-3535)
35 M 1902 63 P
Chediak, Elias, 601 Missouri, 66044
(841-7430)
39 M 84704 65 P
Clark, Margaret G., Hillcrest Med. Center, 66044
(843-3888)
10 F 1902 44 FP
Clark, Ray A., 2103 Kingston Dr., 66044
(843-1005)
07 M 1902 39 FP
Clinton, Dale L., 15 E. 7th, 66044
(841-5716)
21 M 1902 54 PH
Culver, Warren T., 2500 W. 6th, 66044
(842-4178)
20 M 3508 46 OPH
Dunlap, Richard L., 4th & Maine, 66044
(842-4344)
12 M 3005 37 EENT
Gilles, Helen M., 4th & Maine, 66044
(842-4477)
22 F 1902 45 PD
Godwin, Phillip A., 346 Maine, 66044
(842-1070)
28 M 1902 55 ANES
Hatton, Donald W., 404 Maine, 66044
(842-3635)
42 M 1902 68 IM
Hermes, Richard L., 4th & Maine, 66044
(843-0677)
15 M 4112 39 OBG

Hiebert, David L., 404 Maine, 66044
(841-3211)
36 M 1902 61 R

Hird, Wayne E., 329 Missouri, 66044
(842-4300)
26 M 1902 50 TS

Hughes, Robert W., 346 Maine, 66044
(843-1374)
27 M 1902 54 FP

Ingham, H. Laird, 404 Maine, 66044
(842-3635)
45 M 3901 70 IM

Jones, H. Penfield, 4th & Maine, 66044
(842-0211)
06 M 2401 31 GS

Joseph, Howard F., 944 Kentucky, 66044
(843-3981)
26 M 1902 51 U

Kimbrough, Victoria F., 935 Iowa, 66044
(843-8425)
10 F 4706 37 OPH

Learned, George R., 401 Arkansas, 66044
(843-5502)
22 M 1902 55 GS

Lessenden, Glenn A., 346 Maine, 66044
(843-6233)
24 M 1902 48 FP

Madsen, Glenn L., 404 Maine, 66044
(841-3211)
38 M 3005 65 R

Manahan, G. Eugene, 4th & Maine, 66044
(842-0211)
19 M 1902 44 GS

Nelson, Richard O., 201 W. 8th, 66044
(843-0921)
11 M 1001 41 FP

Olson, Carl E., 107 W. 7th, 66044
(842-9981)
17 M 1611 46 FP

Orchard, Richard A., 932 Massachusetts, 66044
(841-2280)
41 M 2802 68 OPH

Owen, Garry D., 4th & Maine, 66044
(843-0677)
37 M 1902 63 OBG

Price, Laurance W., Jr., 404 Maine, 66044
(843-3680)
33 M 1902 59 PATH

Reed, Ralph R., 404 Maine, 66044
(842-3635)
27 M 1902 53 IM

Reese, John L., 4th & Maine, 66044
(842-6644)
35 M 1902 61 GS

Roberts, Richard S., 308 Maine, 66044
(843-6137)
19 M 2802 44 GS

Robison, Corbin E., 901 Kentucky, 66044
(843-3033)
14 M 1902 39 GS

Rothrock, Irvin A., 930 Iowa, 66044
(842-8639)
26 M 401 52 CHP

Sanders, J. Alan, 2309 Princeton Blvd., 66044
(843-3680)
29 M 1902 60 PATH

Schroeder, Sydney O., Watkins Memorial Hosp., 66044
(864-4045)
18 M 1902 44 P

Schwegler, Raymond A., 1504 University Dr., 66044
(843-4455)
07 M 2604 31 OBG

Walters, Byron W., 1030 Avalon Rd., 66044
(843-6751)
13 M 1902 39 FP

Well, Michael A., 944 Kentucky, 66044
(843-3981)
41 M 1606 67 U

Wertzberger, John J., 404 Maine, 66044
(843-9125)
36 M 1902 63 ORS

Wilcox, Howard L., 4th & Maine, 66044
(843-0677)
18 M 3520 44 OBG

Wollmann, Martin, Watkins Memorial Hosp., 66044
(843-9530)
26 M 1902 70 IM

Wright, M. Erik, 2728 Stratford Rd., 66044
(843-3360)
15 M 502 50 P

LEAVENWORTH—913
(Leavenworth County Society)

Anwar, M. Zia, 520 Sixth Ave., 66048
(682-6661)
39 M 11801 67 IM

Barry, David R., 500 Eisenhower Rd., 66048
(727-6000)
42 M 1902 68 FP

Bennett, Charles A., 520 6th Ave., 66048
(682-4373)
96 M 1902 25 FP

Cenac, Mark T., 500 Eisenhower Rd., 66048
(727-6000)
27 M 401 49 GS

Combs, G. Ralph, 211 Arch St., 66048
(682-0478)
79 M 4101 02 OO

Combs, Peter S., 419 Arch St., 66048
(682-0242)
14 M 4101 41 GS

Duysak, Sami, 520 6th Ave., 66048
(682-6661)
22 M 90201 47 IM

Gerber, Harry A., 605 N. 6th Ave., 66048
(682-3893)
96 M 5606 30 FP

Gerjarusak, Prapas, 500 Eisenhower Rd., 66048
(727-6000)
46 M 89101 71 IM

Graham, J. Malcolm, 500 Eisenhower Rd., 66048
(727-6000)
28 M 3840 54 PD
Graham, Kenneth L., 500 Eisenhower Rd., 66048
(727-6000)
21 M 3840 45 GS
Graham, Thomas W., 500 Eisenhower Rd., 66048
(727-6000)
26 M 3840 50 IM
Grisolia, Andres, 424 Walnut, 66048
(682-5400)
27 M 84708 50 ORS
Hammeke, John C., 520 6th Ave., 66048
(682-5201)
27 M 401 61 OPH
Johnson, Paul D., 520 6th Ave., 66048
(682-6661)
36 M 1902 61 FP
McKee, Richard S., 422 Walnut, 66048
(682-1023)
05 M 1902 35 ANES
Merritt, W. Henry, 520 6th Ave., 66048
(682-6661)
14 M 702 39 GS
Parker, Robert W., 500 Eisenhower Rd., 66048
(727-6000)
45 M 1902 71 FP
Pratt, William L., 901 6th Ave., 66048
(682-1886)
05 M 3006 30 OO
Rabe, Melvin A., 520 6th Ave., 66048
(682-6661)
14 M 1902 37 GS
Strutz, William C., 68 Westwood Dr., 66048
(682-8868)
08 M 5606 43 R
Voorhees, Carroll D., 520 6th Ave., 66048
(642-6661)
12 M 1902 39 FP
Voorhees, Gordon S., 520 6th Ave., 66048
(682-6661)
12 M 1902 39 IM

LEAWOOD (*see* Shawnee Mission)

LENEXA (*see* Shawnee Mission)

LENORA—913
(Northwest Kansas Society)

Steichen, Edward F., 67645
(567-4310)
05 M 1601 31 FP

LIBERAL—316
(Seward County Society)

Allen, Ray E., 2 Plaza Drive, 67901
(624-5691)
37 M 1902 64 IM
Campion, Woodrow M., 121 W. 3rd, 67901
(624-2594)
13 M 1902 39 IM
Grimes, I. Ross, P.O. Box 319, 67901
(624-1676)
27 M 3901 54 TS
Harris, Norvan D., 222 W. 15th, 67901
(624-3811)
20 M 1902 44 OBG
Holcomb, William M., 15th E. 11th, 67901
(624-2252)
31 M 3901 56 GS
Koons, Jess W., 1210 N. Washington, 67901
(624-3841)
27 M 1902 57 OPH
Nevins, Richard L., 610 W. 11th, 67901
(624-1841)
47 M 3901 73 FP
Palmer, H. C., Jr., 2 Plaza Dr., 67901
(624-5691)
36 M 1902 63 IM
Prochazka, Otto F., Box 1067, 67901
(624-1651)
12 M 1902 38 R
Rathbun, Edwin D., 610 W. 11th, 67901
(624-1841)
36 M 1902 62 FP
Reese, Jack D., 15th E. 11th, 67901
(624-6226)
32 M 1902 57 FP
Seago, Charlotte L., 1114 N. Washington, 67901
(624-1625)
35 F 1720 60 PD
Wade, Theodore E., 1031 N. Kansas, 67901
(624-5695)
04 M 512 30 GS

LINCOLN—913
(Central Kansas Society)

Madden, William J., 115 W. Spring, 67455
(524-5154)
24 M 1902 51 FP
Songer, Herbert L., 67455
(524-4053)
12 M 1902 38 FP

LINDSBORG—913
(McPherson County Society)

Fredrickson, Duane E., 121 W. Lincoln, 67456
(227-3371)
39 M 1902 67 FP
Fuller, Deryl D., 121 W. Lincoln, 67456
(227-3371)
25 M 1902 50 FP
Murfitt, Malcolm C., 231 N. Main, 67456
(227-5761)
13 M 801 41 IM

LINWOOD—913
(Wyandotte County Society)

Funk, Edward D., R.R. 1, Box 144, 66052
(723-3329)
04 M 1902 41 ANES

LITTLE RIVER—316
(Rice County Society)

Schmidt, Alfred F., 67457
(897-6221)
15 M 1902 41 FP

LOUISBURG—913
(Miami County Society)

Kullman, Frederick M., P.O. Box P, 66053
(837-2600)
45 M 702 71 FP

LYNDON—913
(Franklin County Society)

Stout, Niles M., 66451
(828-4521)
16 M 1902 50 FP

LYONS—316
(Rice County Society)

Grimes, James T., 510 E. Ave. S, 67554
(257-5124)
27 M 1902 53 FP
Siemens, Richard A., 510 E. Ave. S, 67554
(257-5124)
30 M 1902 59 FP
Wolf, Curtis V., 510 E. Ave. S, 67554
(257-5124)
37 M 1902 64 FP

MANHATTAN—913
(Riley County Society)

Ball, Ralph G., 215 S. Delaware, 66502
(537-1956)
03 M 1902 27 OO
Bascom, George S., 1133 College, 66502
(539-6574)
27 M 2401 52 GS
Bestgen, Fred P., 1011 N. Juliette, 66502
(537-7661)
95 M 3006 32 OO
Boese, Kenneth M., 123 S. 5th, 66502
(776-4744)
25 M 1902 56 FP
Brown, Robert M., Kansas State University, 66502
(532-6544)
31 M 1902 63 FP
Burdick, Bruce M., 426 Houston, 66502
(776-9411)
25 M 512 53 P
Crane, C. Herbert, 1133 College, 66502
(537-9030)
22 M 3520 46 PD
Douthit, John D., 2950 Nevada, 66502
(539-1374)
37 M 3005 62 ORS
Durkee, William R., 123 S. 5th, 66502
(776-4744)
23 M 1902 45 IM
Evans, Darrel L., 1860 Claflin Rd., 66502
(539-2691)
04 M 1902 31 FP
Fairchild, John A., 1133 College, 66502
(539-4041)
14 M 3006 41 ANES
Fischer, Rex R., 1133 College, 66502
(539-5322)
34 M 3005 60 OBG
Freeman, Fred A., 1133 College, 66502
(537-8710)
42 M 1902 69 U
Heasty, Robert G., 1133 College, 66502
(539-5322)
11 M 3519 38 OBG
Hostetter, Philip H., 821 Poyntz, 66502
(537-2544)
17 M 1902 42 FP
Hunter, James S., Jr., 1133 College, 66502
(539-5501)
18 M 2301 41 OBG
Jubelt, Hilbert P., 1133 College, 66502
(537-9030)
19 M 1611 43 PD
Kaldor, Richard H., 1133 College, 66502
(539-5363)
40 M 2401 66 PATH
Kempthorne, Charles R., 519 N. 11th, 66502
(539-5211)
03 M 5605 32 OPH
Klingler, Eugene A., Jr., 1133 College, 66502
(539-5341)
35 M 1902 62 GS
Lafene, Benjamin W., 1844 Anderson Ave., 66502
(539-4014)
01 M 3806 31 OO
Lowe, Stanley W., 1133 College, 66502
(539-3451)
32 M 1902 59 OPH
McKnight, David E., 1133 College, 66502
(539-7641)
32 M 1902 57 R
McNeil, Elbert D., 1133 College, 66502
(537-9030)
22 M 702 48 PD
Marshall, Ronald L., 1133 College, 66502
(539-5322)
42 M 3005 67 OBG
Miller, Abraham H., 1133 College, 66502
(527-2651)
29 M 4101 54 IM
Mowry, Gerald L., 1133 College, 66502
(539-5322)
26 M 1902 53 OBG
Nelson, Leslie B., Kans. State Univ., 66502
(532-6544)
23 M 1902 55 FP
Olney, Robert D., 1133 College, 66502
(539-7555)
27 M 3005 51 GS
Peterson, Jack T., 1133 College, 66502
(539-5527)
25 M 1902 50 PATH
Phillips, Stephen B., Kansas State University, 66502
(532-6544)
17 M 1902 45 IM
Reitz, Leland C., 3001 Claflin Rd., 66502
(539-3501)
36 M 1902 63 IM
Reitz, Roger P., 1133 College, 66502
(539-3501)
32 M 1902 59 IM

Schultz, Millard E., 1122 Hylton Heights, 66502
(539-8865)
12 M 1902 45 FP
Sinclair, Robert E., Kansas State University, 66502
(532-6544)
24 M 3840 52 ADM
Stein, Robert B., 1619 Poyntz, 66502
(539-1851)
29 M 3506 52 P
Stone, G. Rex, 1133 College, 66502
(539-7555)
29 M 1902 54 GS
Tiemann, William H., Kansas State University, 66502
(532-6544)
42 M 3005 67 PM
White, Thaddeus H., 1735 Anderson Ave., 66502
(539-2464)
15 M 1902 42 OO

MANKATO—913
(Republic County Society)

Kimball, Richard R., 102 S. Center, 66956
(378-3511)
45 M 1001 72 FP
Schlotterback, William E., Box 288, 66956
(378-3511)
31 M 1902 61 FP

MARION—316
(Marion County Society)

Ensey, T. Cranford, 504 S. Roosevelt, 66861
(382-2182)
20 M 4804 47 FP
Guerra, Tomas H., 122 S. Cedar, 66861
(382-2137)
33 M 84704 65 IM
Melton, Ralph R., 118 N. 4th, 66861
(382-2360)
05 M 1902 33 FP

MARYSVILLE—913
(Northeast Kansas Society)

Argo, Donald A., 808 N. 19th, 66508
(562-2303)
36 M 3005 64 FP
Laws, Lewis R., 808 N. 19th, 66508
(562-2303)
25 M 1902 54 FP

McCONNELL AFB—316
(Sedgwich Medical Society)

*Henderson, R. Winn, USAF Hosp., 67221
(685-1151)
48 M 102 72 FP
Oliver, James H., Jr., USAF Hosp., 67221
(685-1151)
30 M 1606 57 AM
*Vannaman, Donald D., USAF Hosp., 67221
(685-1151)
43 M 1902 71 PD

McLOUTH—913
(Jefferson County Society)

Snook, Robert R., 66054
(796-2800)
11 M 1902 42 FP

McPHERSON—316
(McPherson County Society)

Billings, Thomas, 400 W. 4th, 67460
(241-5500)
39 M 1902 67 FP
Brandsted, Ernest C., 400 W. 4th, 67460
(241-1654)
18 M 1606 44 OBG
Collier, William J., 400 W. 4th, 67460
(241-1766)
25 M 3605 49 GS
Dyck, Arthur H., 101½ N. Main, 67460
(241-0357)
03 M 1902 28 FP
Johnson, J. Richard, 400 W. 4th, 67460
(241-4293)
28 M 1902 55 IM
Pierson, Weir, 823 N. Main, 67460
(241-1445)
17 M 1902 44 FP
Price, Vaughan C., 120 N. Ash, 67460
(241-1224)
05 M 4706 29 GS
Sohlberg, Robert, Jr., 116 N. Ash, 67460
(241-2321)
05 M 1606 34 FP

MEADE—316
(Iroquois County Society)

Daugherty, Robert M., 440 E. Naughton, 67864
(873-2806)
09 M 1902 36 OO
Donahoe, Dorval H., P.O. Box 488, 67864
(873-2181)
32 M 5501 63 FP
Hill, Richard H., 234 E. Carthage, 67864
(873-2113)
18 M 1902 44 FP

MEDICINE LODGE—316
(Tri-County Society)

Ball, Larry D., 116 E. Kansas, 67104
(886-5653)
32 M 1902 58 FP
Hoffer, John G., 604 N. Walnut, 67104
(886-4222)
13 M 1902 44 GS
Stucky, Dean E., 116 E. Kansas, 67104
(886-5653)
33 M 1902 60 FP

MINNEAPOLIS—913
(Saline County Society)

Wedel, Kenneth D., 311 N. Mill, 67467
(392-2144)
32 M 1902 60 FP
Wedel, Kermit G., 311 N. Mill, 67467
(392-2144)
32 M 1902 60 FP

MINNEOLA—316
(Iroquois County Society)

Stephens, Charles G., 222 Main, 67865
(885-4202)
33 M 2803 58 FP

MISSION (*see* Shawnee Mission)

MORAN—316
(Allen County Society)

Nevitt, J. Russell, P.O. Box 430, 66755
(237-4531)
99 M 3510 32 FP

MOUNDRIDGE—316
(McPherson County Society)

Kaufman, Willard E., 115 N. Christian, 67107
(345-6322)
28 M 1902 53 FP
Loganbill, Varden J., 115 N. Christian, 67107
(345-6322)
26 M 1902 54 FP

MULVANE—316
(Sedgwick County Society)

Cobb, Leslie H., 102 E. Main, 67110
(777-1441)
17 M 4804 47 FP

NASHVILLE—316
(Pratt-Kingman Society)

Waylan, Thornton L., 67112
(246-5231)
06 M 1902 35 FP

NEODESHA—316
(Southeast Kansas Society)

Brummett, Richard R., 806 Main, 66757
(325-2622)
34 M 1902 64 FP
Chronister, Bert, 806 Main, 66757
(325-2622)
38 M 1902 64 FP
Moorhead, F. Allen, 709 Main St., 66757
(325-2200)
39 M 1902 65 FP

NESS CITY—913
(Central Kansas Society)

Wiens, Peter K., 722 E. Locust, 67560
(798-3191)
24 M 1902 55 FP

NEWTON—316
(Harvey County Society)

Allen, Frances Ann, 201 S. Pine, 67114
(283-3600)
15 F 1902 43 IM
Benton, Jay S., 201 S. Pine, 67114
(283-3600)
23 M 4804 49 OBG
Carper, Ivan H., 203 E. Broadway, 67114
(283-2800)
28 M 1902 59 GS
Carper, Owen E., 203 E. Broadway, 67114
(283-2800)
37 M 1902 64 FP
Claassen, Milton A., 201 S. Pine, 67114
(283-3600)
32 M 1902 58 ORS
Clark, Loella E., 203 E. Broadway, 67114
(283-2800)
42 F 512 73 FP
Enns, Eugene K., 6 Indian Lane, 67114
(283-0974)
15 M 1902 40 OO
Enns, James H., 900 N. Poplar, 67114
(283-1400)
24 M 1902 47 OPH
Fent, Lee S., 316 Oak, 67114
(283-0505)
14 M 2834 43 GS
Fransen, Herbert, 209 S. Pine, 67114
(283-5040)
32 M 6501 60 GS
Fransen, Paul H., 209 S. Pine, 67114
(283-5040)
46 M 6501 71 FP
Glover, Richard M., 203 E. Broadway, 67114
(283-2800)
21 M 1902 53 FP
Griswold, Dale G., 203 E. Broadway, 67114
(283-2800)
27 M 1902 53 IM
Grove, John A., 203 E. Broadway, 67114
(283-2800)
08 M 1606 37 ORS
Grove, John L., 407 W. 16th, 67114
(283-0625)
80 M 1611 06 OO
Grove, William E., 203 E. Broadway, 67114
(283-2800)
14 M 1606 40 GS
Hawkey, Alfred S., 203 E. Broadway, 67114
(283-2800)
03 M 1902 29 OO
Hill, Phillip K., 201 S. Pine, 67114
(283-3600)
29 M 1803 56 CD
Hwa, Eugene C., P.O. Box 364, 67114
(283-1160)
21 M 24216 47 R
Isaac, Charles A., 203 E. Broadway, 67114
(283-2800)
25 M 1902 49 U
Klassen, Daniel S., 316 Oak, 67114
(283-1313)
13 M 1902 42 OBG
Kliewer, Vernon L., Prairie View Hospital, 67114
(283-2400)
31 M 1606 57 P
Lorentzen, Donald E., 201 S. Pine, 67114
(283-3600)
34 M 3701 61 IM
Myers, Robert W., 201 S. Pine, 67114
(283-0818)
11 M 1902 43 OO
Nachtigall, Andrew, 201 S. Pine, 67114
(283-3600)
28 M 1902 59 PD
Olson, Erwin T., 201 S. Pine, 67114
(283-3600)
19 M 1902 47 PD

O'Toole, James K., 601 Santa Fe, 67114
(283-2400)
28 M 1643 54 P
Pedraza, Hernando V., 4 Sycamore St., 67114
(264-1381)
28 M 26404 56 R
Preheim, Delbert V., 209 S. Pine, 67114
(283-5040)
13 M 702 42 IM
Qamar, Yusuf, 203 E. Broadway, 67114
(283-2800)
38 M 70409 62 IM
Rich, Eldon S., 201 S. Pine, 67114
(283-3600)
16 M 1902 46 OBG
Rouleau, David N., 209 S. Pine, 67114
(283-5040)
47 M 1902 73 FP
Schmidt, Herbert R., 1015 Washington Rd., 67114
(283-1304)
03 M 1902 34 OO
Sills, Charles T., 203 E. Broadway, 67114
(283-2800)
09 M 1902 37 IM
Tandoc, Valentin T., Jr., 201 S. Pine, 67114
(283-3600)
39 M 74809 62 U
Teng, Sioe Hong, Prairie View Mental Health Center 67114
(283-2400)
33 M 50602 60 P
Tompkins, Carl O., 316 Oak, 67114
(283-1380)
22 M 1902 51 FP
Vaughan, Donna A., 201 S. Pine, 67114
(283-3600)
45 F 1902 71 IM
Vogt, Vernon W., 201 S. Pine, 67114
(283-3600)
22 M 3005 53 FP
Wiens, J. Wendell, 201 S. Pine, 67114
(283-3600)
32 M 1902 59 GS
Yoder, Vernon E., Prairie View Mental Health Center, 67114
(283-2400)
31 M 4802 61 P

NORTON—913
(Northwest Kansas Society)

Colip, F. Merlynn, 711 N. Norton, 67654
(927-3305)
35 M 1902 61 FP
Cooper, Arthur E., 305 W. Wilberforce, 67654
(927-2126)
08 M 1611 34 OO
Hartley, Roy W., 711 N. Norton, 67654
(927-3305)
37 M 1902 63 FP
Hartman, Roger L., 711 N. Norton, 67654
(927-3305)
35 M 1902 61 FP
Long, Robert C., 711 N. Norton, 67654
(927-3305)
27 M 1902 53 GS

NORTONVILLE—913
(Jefferson County Society)

Madison, Willard A., 66060
(886-2110)
20 M 1902 51 FP

OAKLEY—913
(Northwest Kansas Society)

Ohmart, Richard V., Box 756, 67748
(672-3262)
36 M 1902 62 FP
Sekavec, Gordon B., 209 Center, 67748
(672-3351)
07 M 1902 38 FP

OBERLIN—913
(Northwest Kansas Society)

Whitaker, Ren R., 504 N. Penn, 67749
(475-2222)
37 M 5404 66 FP

OLATHE—913
(Johnson County Society)

Aronoff, Michael E., 105 Patron's Plaza Bldg., 66061
(782-3953)
39 M 1604 64 OTO
Beebe, Edmer, 420 E. Cedar, 66061
(782-0443)
03 M 5605 32 OO
Bliss, Joy V., 1715 Penrose, 66061
(782-2292)
42 F 3005 68 ANES
Chenoweth, John R., D.O., 401 Clairborne, 66061
(782-2442)
36 M 2840 70 OST
Delphia, Robert E., 401 Clairborne Dr., 66061
(782-1610)
24 M 1902 56 FP
Eidt, David W., 405 Clairborne, 66061
(782-3322)
44 M 2501 70 FP
Fortune, Cedric B., 405 Clairborne, 66061
(782-3322)
40 M 1902 66 FP
Glazzard, Charles D., 405 Clairborne, 66061
(782-3384)
28 M 2507 56 P
Halvorson, Howard C., 540 E. Santa Fe, 66061
(782-2020)
41 M 5404 66 U
Holman, Melvin V., Shawnee Mission Med. Center, 66061
(831-8592)
20 M 1902 51 ANES
Laird, Dale D., One Patrons Plaza, 66061
(782-3631)
42 M 1902 68 OPH
Matthew, William L., 405 Clairborne, 66061
(782-3322)
29 M 1902 56 FP

McCann, William E., 540 E. Santa Fe, 66061
(782-0262)
22 M 3901 48 FP
Mee, Adrian W., 11 Holly Dr., 66061
(782-2292)
19 M 1902 54 ANES
Pierron, George J., 540 E. Santa Fe, 66061
(782-0260)
22 M 1902 47 FP
Pincomb, Arthur L., 401 Clairborne, 66061
(782-1415)
20 M 1902 51 FP
Seaman, Lauren I., 401 Clairborne, 66061
(782-1415)
07 M 6001 38 FP
Sheffer, Keith D., 405 Clairborne, 66061
(782-1148)
37 M 1720 67 ORS
Soeldner, James O., 405 Clairborne, 66061
(782-3322)
44 M 1902 70 FP
Stopple, John A., 405 Clairborne, 66061
(782-3073)
42 M 5605 69 OBG
Waugh, George L., 507 W. Park, 66061
(782-1390)
28 M 401 59 OBG

ONAGA—913
(Pottawatomie County Society)

Fleckenstein, Charles S., 100 W. 8th, 66521
(889-4241)
07 M 1902 36 FP
Walsh, Eugene A., 100 W. 8th, 66521
(889-4241)
18 M 3006 42 FP
Walsh, Thomas E., Onaga Clinic, 66521
(889-4241)
48 M 1902 74 FP

OSAGE CITY—913
(Flint Hills Society)

Williams, Homer J., 524 Market, 66523
(528-3211)
05 M 1902 31 FP

OSAWATOMIE—913
(Miami County Society)

Appenfeller, William O., 524 Brown, 66064
(755-3166)
25 M 1902 53 FP
Fowler, James T., 507 6th St., 66064
(755-3101)
12 M 1902 36 FP
Keil, James E., Osawatomie State Hosp., 66064
(755-3151)
44 M 1902 70 P
Quinones, Eladio A., Osawatomie State Hosp., 66064
(755-3151)
16 M 27501 43 FP

OSBORNE—913
(Osborne County Society)

Cornely, John F., 431 W. New Hampshire, 67473
(346-5493)
20 M 4113 50 GS

OSWEGO—316
(Labette County Society)

Burgess, Arthur P., 504 5th St., 67356
(795-4427)
19 M 1902 52 FP
Liujuluschan, Rit, Oswego Clinic, 67356
(795-2511)
41 M 89101 68 GS
Paranjothi, Subramoniam P., Oswego Clinic, 67356
(795-2511)
39 M 49531 64 IM

OTTAWA—913
(Franklin County Society)

Gollier, Robert A., 312 E. 11th, 66067
(242-2393)
13 M 1902 37 OO
Gollier, Robert A., II, 1320 S. Ash, 66067
(242-1620)
40 M 1902 67 FP
Hadley, Delmont C., 1320 S. Ash, 66067
(242-3891)
35 M 1902 64 FP
Henning, Calvin W., 1502 Cedar, 66067
(242-2641)
05 M 1902 35 FP
Laury, David G., 1320 S. Ash, 66067
(242-1620)
17 M 1606 44 FP
Lofgreen, Victor, 203 W. 3rd, 66067
(242-2126)
97 M 1902 32 FP
Philgreen, Donald E., 1302 S. Main, 66067
(242-3891)
39 M 1602 67 FP
Reyes, Francisco A., Jr., 1320 S. Ash, 66067
(242-5312)
38 M 74801 61 GS
Speer, Louis N., 109 W. 4th, 66067
(242-1257)
14 M 1606 41 FP
Strehlow, Chester H., 1320 S. Ash, 66067
(242-3891)
30 M 1902 57 FP
Sutton, Robert E., 1320 S. Ash, 66067
(242-1630)
46 M 1902 71 FP

OVERBROOK—913
(Shawnee County Society)

Ruble, James L., Jr., 66524
(665-2205)
26 M 1902 53 FP

OVERLAND PARK (*see* Shawnee Mission)

PAOLA—913
(Miami County Society)

Banks, Robert E., 110 S. Agate, 66071
(294-2305)
29 M 1902 55 FP
Rowlett, Jack G., 2 Holly Lane, 66071
(294-2356)
21 M 1902 52 FP
Stanley, Rex C., 2 Holly Lane, 66071
(294-2356)
24 M 1902 52 GS

PARSONS—316
(Labette County Society)

Aves, Renato B., 1509 Main, 67357
(421-0600)
35 M 74801 59 GS
Bair, Howard V., Parsons State Hosp., 67357
(421-6550)
18 M 1902 43 P
Borklund, Maurice K., 400 Katy St., 67357
(421-2700)
21 M 1720 50 GS
Cramer, Guy W., 1509 Main, 67357
(421-0600)
11 M 1902 39 GS
DeBriere, Sidney L., Box 738, 67357
(421-6550)
19 M 702 52 PD
Henderson, Charles F., 1509 Main, 67357
(421-0600)
14 M 1902 40 FP
Hermann, Charles G., 303 Crestview, 67357
(421-4880)
24 M 3005 47 PATH
Jiongco-Aves, Agnes M., 1509 Main, 67357
(421-0600)
38 F 74801 59 IM
Martin, Earl A., 1516 Grand, 67357
(421-4595)
07 M 1606 35 OO
Miller, Charles H., 2819 Clark, 67357
(421-6422)
07 M 3006 32 OO
Miller, Dean M., 108 Crestview, 67357
(421-4880)
22 M 1902 48 R
Pace, John D., 115½ S. 18th, 67357
(421-1010)
94 M 1902 20 FP
White, John P., 1509 Main, 67357
(421-0600)
17 M 1902 42 FP

PEABODY—316
(Marion County Society)

Suwanabhand, Chalaw, Peabody Clinic, 66866
(983-2511)
32 M 89101 57 FP

PHILLIPSBURG—913
(Central Kansas Society)

Steinkruger, Verlyn W., 625 3rd St., 67661
(543-5211)
28 M 3005 53 FP

PITTSBURG—316
(Crawford County Society)

Berkey, Vernon A., 617½ N. Broadway, 66762
(231-7650)
18 M 1902 43 R
Bierlein, Kenneth J., 905 N. Locust, 66762
(231-6060)
06 M 1606 33 A
Braun, William T., 214 Elmwood Dr., 66762
(231-6821)
10 M 4706 35 OO
Coomer, Tyler E., 315 National Bank Bldg., 66762
(231-7730)
30 M 2101 59 GS
Elliott, Howard R., 420½ W. Jefferson, 66762
(231-5650)
13 M 1902 42 FP
Erickson, Clarence W., 217 Natl. Bank Bldg., 66762
(231-7400)
06 M 1902 33 IM
Esch, John G., 207 Kirkwood Bldg., 66762
(231-5360)
24 M 3006 48 GS
Gomez, Modesto S., 2308 Tucker Terr., 66762
(231-2490)
35 M 72601 63 PD
Gregory, Arlene, P.O. Box 457, 66762
(231-6100)
36 F 1102 66 ANES
Holsinger, Donald M., 207 Prof. Bldg., 66762
(231-5900)
38 M 1902 64 IM
Leffler, Paul B., 212 Natl. Bank Bldg., 66762
(231-2810)
02 M 1902 40 IM
Lyons, Dave J., 107 W. 4th, 66762
(231-5160)
07 M 2834 30 FP
McKee, Dick B., 1500 S. College, 66762
(231-0330)
96 M 1902 28 OO
Miller, Earl E., 1312 S. Broadway, 66762
(231-6410)
13 M 1902 37 EENT
Muller, Samuel B., 611 W. Quincy, 66762
(231-4331)
05 M 1902 34 OO
Neighbor, Ernest H., 2309 Tucker Ave., 66762
(232-1600)
40 M 1902 66 ORS
Newman, Clifford B., 1204 E. 7th, 66762
(231-7470)
01 M 1902 28 OO
Pogson, George W., 207 Professional Bldg., 66762
(231-5900)
24 M 1902 47 IM

Schlemmer, Roger B., 1009 S. Broadway, 66762
(231-6380)
37 M 1902 68 OPH
Tweet, Frederick A., 2007 Countryside Dr., 66762
(231-6100)
39 M 1602 66 PATH
Wood, Douglas H., 413 W. Jefferson, 66762
(231-5111)
11 M 5605 36 OO

PLAINVILLE—913
(Central Kansas Society)

Page, Vale, 409 S. Cochran, 67663
(434-4609)
20 M 1902 51 FP
Pederson, Arnold M., 409 S. Cochran, 67663
(434-4609)
22 M 1902 51 FP

PLEASANTON—913
(Bourbon County Society)

Justus, William J., 66075
(352-6134)
29 M 1902 55 FP
McNutt, Theodore L., 66075
(352-6134)
29 M 1902 55 FP

PRAIRIE VILLAGE (*see* Shawnee Mission)

PRATT—316
(Pratt-Kingman Society)

Barker, Patrick N., 1219 E. First, 67124
(672-5666)
45 M 1902 71 GS
Black, Cyril V., 223 E. 4th, 67124
(672-6403)
05 M 4802 30 GS
Filley, Vernon W., 310 E. 2nd, 67124
(672-5555)
13 M 3005 43 GS
Freeman, F. Giles, 310 E. 2nd, 67124
(672-5555)
18 M 1902 44 FP
Jacks, J. Warren, 602 E. 2nd, 67124
(672-5559)
23 M 1902 48 FP
Pitman, Will D., 717 West 3rd, 67124
(672-6602)
98 M 1902 25 OO
Porter, William J., Pratt Co. Hospital, 67124
(672-6476)
26 M 1902 53 R
Thorpe, Francis A., 310 E. 2nd, 67124
(672-5555)
08 M 1606 35 FP
Wolff, Frederick P., 223 E. 4th, 67124
(672-6403)
20 M 1902 44 IM

PROTECTION—316
(Iroquois County Society)

Glenn, Lyle G., Box 447, 67127
(622-4686)
12 M 1606 40 FP

QUINTER—913
(Northwest Kansas Society)

Carman, Dean R., 116 E. 4th, 67752
(754-3333)
36 M 1902 69 FP
Gunter, Carl C., 116 E. 4th, 67752
(754-3333)
20 M 1902 51 FP
Hiesterman, Herman W., 116 E. 4th, 67752
(754-3333)
23 M 1902 51 FP

RANSOM—913
(Central Kansas Society)

McLain, Kenneth, Box 247, 67572
(731-2295)
21 M 1902 46 FP

RILEY—913
(Riley County Society)

Oltman, Theodore V., Box 68, 66531
(485-2549)
00 M 1601 29 OO

RUSSELL—913
(Central Kansas Society)

Merkel, Earl D., 326 N. Main, 67665
(483-2178)
32 M 1902 57 FP
Pettijohn, Walter J., 213 W. 7th, 67665
(483-2243)
12 M 1902 37 OO
Starkey, Jerald L., 326 N. Main, 67665
(483-2178)
30 M 1902 56 FP
Swann, Clair L., 112 W. 7th, 67665
(483-4212)
13 M 1902 39 IM
White, Fagan N., 213 W. 7th, 67665
(483-2133)
11 M 702 36 GS

SABETHA—913
(Northeast Kansas Society)

Brown, Virgil E., 1018 Main, 66534
(284-2141)
06 M 1902 37 FP
Hunnicutt, Cecil C., 1018 Main, 66534
(284-2141)
04 M 512 32 GS
Montgomery, Thomas A., 1018 Main, 66534
(284-2141)
10 M 1902 49 FP

ST. FRANCIS—913
(Northwest Kansas Society)

Cram, Ernest R., Box 625, 67756
(332-2126)
24 M 1902 52 FP
Stephenson, Lucille C., 67756
(332-3232)
06 F 1902 32 FP
Walz, Thomas J., 604 S. Benton, 67756
(332-3175)
94 M 1902 21 OO

ST. JOHN—316
(Stafford County Society)

Quackenbush, Robert P., 67576
(549-3471)
21 M 1611 52 FP
Scherer, Alfred L., 610 E. First, 67576
(549-3261)
32 M 1902 57 FP
Willis, Jon T., 610 E. 1st, 67576
(549-3233)
38 M 3901 65 FP

ST. MARYS—913
(Pottawatomie County Society)

Brown, Fred E., 602 W. Palmer, 66536
(437-2256)
26 M 1902 55 FP

SALINA—913
(Saline County Society)

Allen, Monte L., 600 S. Santa Fe, 67401
(827-0307)
36 M 1902 61 ENT
Anderson, Jody, 737 E. Crawford, 67401
(827-7261)
32 F 1902 59 IM
Armstrong, Carroll W., 718 United Bldg., 67401
(823-2632)
08 M 3006 33 ENT
Brungardt, Bernard A., 400 E. Beloit, 67401
(827-5170)
21 M 3006 46 ANES
Calderwood, William A., 135 E. Claflin, 67401
(827-9631)
41 M 1902 68 FP
Coffey, Roy B., 671 Elmore Dr., 67401
(823-6397)
24 M 1902 47 ORS
Covert, Thomas J., 737 E. Crawford, 67401
(827-7261)
45 M 1902 71 PD
Cultron, Frank T., 800 E. Crawford, 67401
(823-8151)
10 M 1643 38 OPH
Dowell, James C., 645 E. Iron, 67401
(827-7255)
26 M 1611 49 IM
Draemel, H. Richard, 600 S. Santa Fe, 67401
(827-0307)
18 M 1902 53 OTO
Dreher, Henry S., 737 E. Crawford, 67401
(827-7261)
18 M 1902 43 IM
Eaton, Glen E., RFD #3, Box 94B, 67401
(827-3064)
28 M 1902 54 ANES
Eaton, Leslie F., 737 E. Crawford, 67401
(827-7261)
06 M 1902 32 GS
Ellison, Paul D., 600 S. Santa Fe, 67401
(825-7271)
35 M 2105 60 OPH
Feighny, Robert E., 519 S. Santa Fe, 67401
(827-4424)
20 M 1902 51 ORS
Freeman, Raymond S., 737 E. Crawford, 67401
(827-7261)
20 M 702 50 PD
Gans, Frederick A., 737 E. Crawford, 67401
(827-7261)
22 M 2834 46 PD
Goering, Donald D., Box 176, 67401
(825-8221)
31 M 1902 56 FP
Gunn, Marvin R., 2142 Edgehill Rd., 67401
(827-9526)
28 M 3901 54 R
Harris, Norman R., 430 S. 7th, 67401
(825-8191)
30 M 1902 59 OBG
Hartenbower, Carey A., 617E United Bldg., 67401
(827-9526)
20 M 1902 51 R
Hatton, Lloyd W., 406 United Bldg., 67401
(827-6256)
06 M 1902 33 P
Hodges, Merle A., 430 S. 7th, 67401
(825-8191)
34 M 1902 58 OBG
Holman, Jon B., 600 S. Santa Fe, 67401
(827-9366)
33 M 1902 63 P
Jackson, Delmas A., Jr., 645 E. Iron, 67401
(827-7255)
35 M 2101 60 IM
Jenkins, Neal M., 135 E. Claflin, 67401
(827-9631)
19 M 1902 49 IM
Lake, Max S., 600 S. Santa Fe, 67401
(827-0307)
19 M 3005 43 OPH
Lasley, David A., 645 E. Iron, 67401
(827-9635)
22 M 1606 47 U
Livingston, Charles E., 135 E. Claflin, 67401
(827-9631)
32 M 1611 57 GS
Lungstrum, Jack E., 645 E. Iron, 67401
(823-2215)
21 M 1902 59 ORS
Macy, Norman E., 1917 Ridgeview, 67401
(827-4053)
35 M 1902 60 PATH
Marchbanks, Donald L., 1911-E Glendale Rd., 67401
(823-2380)
24 M 1902 51 FP
Martin, Oliver L., 135 E. Claflin, 67401
(827-9631)
08 M 1902 37 OBG
Mathis, Jerry L., 1112 Albert, 67401
(827-9343)
35 M 1902 62 PDA
Maxwell, Gordon E., 135 E. Claflin, 67401
(827-9631)
29 M 1902 55 OBG

McCrae, Spencer C., 519 S. Santa Fe, 67401
(827-4424)
18 M 3509 43 ORS
McFadden, Roger R., P.O. Box 236, 67401
(827-4053)
38 M 1902 70 PATH
Miller, Elden V., 1928 Ridgelea Dr., 67401
(823-3242)
19 M 1902 44 ANES
Mitchell, John C., 617 United Bldg., 67401
(827-3061)
13 M 1902 38 GS
Mowery, William E., 737 E. Crawford, 67401
(827-7261)
23 M 1902 47 GS
Nickell, Wendell K., 315 United Bldg., 67401
(827-9618)
26 M 1606 50 TS
Null, William G., 135 E. Claflin, 67401
(827-9631)
31 M 102 - 57 PD
Obando, Guillermo, 2110 Knollcrest Dr., 67401
(833-6219)
35 M 26404 62 R
Palmer, Gerald K., St. John's Hospital, 67401
(827-5591)
24 M 1803 53 PATH
Rassa, Reza P., P.O. Box 1608, 67401
(827-4411)
33 M 51701 59 R
Reece, Richard J., 617 D United Bldg., 67401
(827-9526)
23 M 1902 49 R
Roderick, James E., 645 E. Iron, 67401
(827-9635)
23 M 1902 47 U
Romeiser, Rex S., 645 E. Iron, 67401
(827-9635)
41 M 1902 67 U
Rueb, Andrew E., 406 United Bldg., 67401
(827-6691)
11 M 1606 35 GS
Schwartz, John H., 617 E. Elm, 67401
(825-8221)
44 M 1902 70 FP
Scott, Chester E., 519 S. Santa Fe, 67401
(827-5549)
23 M 1902 51 FP
Simpson, J. Colbert, 308 W. South, 67401
(827-3911)
07 M 3006 38 OBG
Sloo, Milo G., 645 E. Iron, 67401
(823-2215)
41 M 1902 67 ORS
Smith, Harold R., 737 E. Crawford, 67401
(827-7261)
19 M 1902 51 FP
Taylor, Thomas F., 430 S. Ohio, 67401
(827-0346)
26 M 1902 53 FP
Wagenblast, Howard R., 737 E. Crawford, 67401
(827-7261)
21 M 1902 49 FP
Waters, Clarence N., 530 S. Fifth, 67401
(823-6497)
13 M 2834 48 D
Weber, Clarence J., 156 Overhill, 67401
(823-6182)
00 M 1902 39 PATH
Weber, Robert W., 645 E. Iron, 67401
(827-7255)
26 M 1902 49 IM

SCOTT CITY—316
(Southwest Kansas Society)

Fields, Galen W., 202 College, 67871
(872-2187)
15 M 1902 49 FP
Hopkins, B. Morris, 804 Crescent Dr., 67871
(872-2187)
23 M 1902 53 FP
Palmer, H. Preston, P.O. Box 457, 67871
(872-2500)
97 M 1902 29 OO

SEDAN—316
(Southeast Kansas Society)

Taylor, Elmer W., P.O. Box 8, 67361
(725-3141)
28 M 512 57 FP
Walker, William K., 111 E. Cherokee, 67361
(725-3171)
18 M 1902 45 FP

SENECA—913
(Northeast Kansas Society)

Berkley, Norman W., 15 S. 5th, 66538
(336-2128)
31 M 1902 63 FP
Gilbert, J. Howard, 522 Main, 66538
(336-2414)
05 M 1902 41 FP

SHARON SPRINGS—913
(Northwest Kansas Society)

Chung, John J., Wallace Co. Med. Clinic, 67758
(852-4214)
23 M 58301 48 FP

SHAWNEE MISSION (Mission, Leawood, Lenexa, Prairie Village, Overland Park)—913
(Johnson County Society)

Allen, Lewis G., 7301 Mission Rd., 66208
(362-2222)
21 M 1902 45 R
Allen, Timothy E., 6742 Fontana, 66208
(334-2674)
49 M Medical Student
Altenbernd, Elvin C., 7319 W. 81st, 66204
(648-2010)
26 M 1902 54 FP
Alvarez, Luis A., 8100 Marty, 66204
(649-3400)
32 M 64914 61 FP
Arenal, Angela C., 2000 W. 61st Terr., 66208
(281-8400)
38 F 35204 60 ANES

Armbruster, Albert A., 9119 W. 74th St., 66204
(362-9220)
17 M 512 55 GS

Athon, Merrill D., 6806 W. 83rd, 66204
(642-4242)
24 M 1902 54 FP

Baeke, John O., 6806 W. 83rd, 66204
(642-4242)
19 M 1902 52 FP

Balanoff, Arnold A., 4601 W. 109th, 66211
(642-4040)
42 M 1803 67 PD

Bansal, Satish C., 8100 Marty, 66204
(649-3400)
38 M 49541 61 ORS

Barker, Elizabeth B., 4121 W. 83rd, 66208
(381-6669)
30 F 4706 55 P

Barker, James B., 8686 W. 96th, 66212
(381-3338)
31 M 4706 55 OTO

Barr, Richard N., 7301 Mission Rd., 66208
(432-4366)
32 M 1902 57 OPH

Barrick, Bruce, Med. Center, 66204
(831-8914)
39 M 1902 65 PATH

Batty, Thomas V., 5555 W. 58th, 66207
(432-2080)
21 M 3806 54 FP

Bell, Deloris J., 4601 W. 109th, 66211
(341-6550)
42 F 1902 68 OPH

Belzer, Edward G., 4601 W. 109th, 66211
(381-8282)
36 M 3005 58 PD

Billingsley, Thad H., 5555 W. 58th, 66202
(432-2080)
41 M 1902 66 P

Bishop, Francis E., 7501 Mission Rd., 66208
(648-3533)
20 M 1902 45 P

Bletz, Donald B., 6100 Martway, 66202
(362-7290)
28 M 5104 58 N

Boles, J. Michael, 5949 Nieman Rd., 66203
(631-1300)
35 M 1902 61 FP

Bridgens, James G., Shawnee Mission Med. Center, 66204
(831-8914)
22 M 1902 47 PATH

Brown, Robert W., 10322 Wenonga, 66206
(831-5100)
23 M 1902 55 IM

Brown, William R., 7301 Mission Rd., 66208
(236-8866)
23 M 1902 48 IM

Burger, Paul B., 5638 Nieman Rd., 66203
(631-6114)
25 M 2834 50 FP

Cain, Ivan W., 7301 Mission Rd., 66208
(362-7811)
18 M 1902 44 ORS

Calderon, Jaime, 8100 Marty, 66204
(649-3400)
39 M 26401 66 IM

Calkins, Larry L., 5100 West 95th, 66207
(649-0110)
18 M 1902 43 OPH

Carduff, Jay J., 6300 Glenwood, 66202
(432-4480)
25 M 3006 54 FP

Carrasco, Lenore C., 5811 Outlook, 66202
(432-0625)
41 F 74801 63 A

Catlett, Jack M., 7301 Mission Rd., 66208
(362-0275)
27 M 1902 54 IM

Cavitt, Robert F., 9119 W. 74th, 66204
(831-0700)
24 M 1902 48 GS

Chang, Shu-Fang, 5311 Walmer, 66202
(362-5702)
25 F 24239 49 P

Coe, David L., 6100 Martway, 66202
(362-7290)
36 M 1902 66 FP

Coe, Richard O., 7301 Mission Rd., 66208
(362-8505)
31 M 4804 56 OPH

Cohen, Robert A., 3700 W. 83rd, 66208
(642-2100)
39 M 2803 64 PD

Cohn, Steven G., 7907 W. 99th St., 66212
(831-6670)
41 M 1902 67 ANES (Res)

Cooper, Jack R., 7301 Mission Rd., 66208
(432-6300)
17 M 3840 43 NS

Corbin, Murray D., 6100 Martway, 66202
(362-7290)
39 M 1902 65 CD

Coulter, Henry F., 5829 Woodson Rd., 66202
(722-1100)
23 M 1902 51 FP

Cox, Ira, Jr., 5829 Woodson, 66202
(722-1100)
19 M 1902 49 FP

Curran, Kevin E., 4121 W. 83rd, 66208
(649-9383)
39 M 2803 65 OPH

Dave, Naresh B., 8100 Marty, 66204
(649-3400)
37 M 49501 63 ORS

DeMott, Wayne R., 4914 Belinder, 66205
(621-5335)
34 M 4002 59 PATH

Denison, Terry R., 5829 Woodson Rd., 66202
(722-1106)
29 M 1902 56 PD

Derrington, Kenneth L., 5555 W. 58th, 66202
(432-2080)
44 M 1902 71 FP

Dockhorn, Robert J., 7501 Mission Rd., 66208
(381-4674)
34 M 1902 60 PDA

Doherty, William R., 7600 State Line, 66208
(649-3900)
20 M 3006 56 FP

Duckett, Thomas G., II, 4601 W. 109th, 66211
(648-1022)
41 M 1902 67 OPH

Duerksen, Joseph J., 4407 W. 54 Terr., 66205
(831-6670)
27 M 1902 54 ANES

Enders, Wray, 9034 Cottonwood Dr., #2, 66215
(492-9353)
02 M 1902 36 OO

Esrig, Harold L., D.O., 8132 Sagamore, 66206
(381-5072)
30 M 2840 60 ANES

Etzenhouser, Russell D., 4601 W. 109th, 66211
(381-8282)
34 M 1902 59 PD

Evans, William E., Jr., 7301 Mission Rd., 66208
(362-7363)
24 M 1902 58 FP

Felt, Samuel D., 10802 W. 75th Terr., 66214
(831-7100)
46 M 1902 72 PATH (Res)

Fixley, Mark S., 8447 Farley, 66212
()
45 M 1902 72 R

Garcia, Francisco M., 9409 W. 82nd, 66204
(649-7067)
32 M 27501 60 FP

Gardner, Glenn M., 9119 W. 74th, 66204
(236-7066)
35 M 2803 60 IM

Gentry, Kale C., 6806 W. 83rd, 66204
(642-4242)
31 M 1902 60 FP

Gilbert, Roberta M., 4121 W. 83rd, 66208
(341-5700)
35 F 3506 62 P

Gill, Bruce D., 9119 W. 74th, 66204
(831-2334)
35 M 1902 61 OBG

Gillen, Billy A., 8802 Birch Lane, 66207
(381-0521)
29 M 1902 54 ANES

Gloyne, Howard F., 6815 Floyd, 66204
(262-6413)
21 M 1902 46 OO

Gomez, Francisco, 4000 Somerset Dr., 66208
(649-7300)
15 M 26401 43 P

Good, Wendell L., 4601 W. 109th, 66211
(649-3883)
24 M 1902 48 FP

Grady, Kenneth L., 4000 Somerset Dr., 66208
(649-5566)
36 M 1902 69 P

Grayson, Roy D., 8020 Santa Fe, 66204
(642-4080)
90 M 1902 19 FP

Greenberg, M. Taylor, 7301 Mission Rd., 66208
(362-1918)
42 M 5104 67 IM

Griffin, Somsri, 5033 W. 73rd, 66208
(384-1880)
31 F 89101 56 CHP

Hamtil, Lawrence W., 3700 W. 83rd, 66208
(649-6722)
36 M 2803 61 OPH

Hard, Benjamin F., 7301 Mission Rd., 66208
(362-2340)
28 M 4802 55 OBG

Harms, Albert C., 5750 W. 95th, 66207
(381-5550)
13 M 1902 38 FP

Harned, Bert W., Shawnee Mission Med. Center, 66204
(831-8592)
24 M 1606 47 ANES

Harpster, Gene O., 4601 W. 109th, 66211
(648-1400)
31 M 1902 57 GS

Hastings, Mary T., 2520 West 50 Pl., 66205
(722-1658)
45 F Medical Student

Herzon, Charles D., 8951 W. 75th, 66204
(649-9010)
39 M 3006 65 OBG

Hesser, Herbert H., 7207 Edgewood Blvd., 66203
(631-3121)
06 M 1902 34 OO

Hiatt, W. Stewart, 7301 Mission Rd., 66208
(362-6888)
31 M 502 56 GS

Higgins, Ronald A., 6100 Martway, 66202
(362-7290)
37 M 2803 65 D

Hobson, Milburn W., 9119 W. 74th, 66204
(831-2334)
30 M 1902 55 OBG

Hodges, Bruce P., 12345 W. 95th, 66215
(888-0777)
32 M 1902 63 FP

Hopkins, Lenly T., Jr., 8600 W. 95th, 66212
(649-7844)
30 M 3841 56 GS

Hopkins, William O., 8600 W. 95th, 66212
(649-3202)
33 M 2803 61 ORS

Horseman, Robert F., 9119 W. 74th, 66204
(432-7419)
19 M 1902 44 OBG

Iturralde, George, 7501 Mission Rd., 66208
(648-4949)
21 M 13201 49 P

Jones, Charles E., 74th & Grandview, 66204
(831-8555)
31 M 1902 60 FP

Jones, H. Ivor, 4000 Somerset Dr., 66208
(381-1331)
24 M 80303 51 P

Jorg, Helen H., 7500 W. 95th, 66212
(381-5072)
21 F 2802 53 ANES
Kagan, Stuart M., 7301 Mission Rd., 66208
(362-6000)
44 M 4901 69 PD
Kennedy, Kenneth R., 6100 Martway, 66202
(432-0126)
24 M 1902 53 FP
Khurana, Satish K., 9119 W. 74th, 66204
(722-2020)
41 M 49536 65 PD
Kodanaz, A. Aytekin, 5710 Reinhardt Dr., 66205
(621-5335)
28 M 90201 55 ANES
Kozikowski, Ben M., 7301 Mission Rd., 66208
(362-8317)
30 M 2834 55 ORS
Krueger, Alan L., 10108 Gillette, 66215
(831-412)
41 M 1902 67 P
Kubin, Doris, 2504 W. 71st, 66208
(371-4343)
15 F 1902 43 R
Kurth, Robert H., 5555 W. 58th St., 66202
(432-2080)
28 M 3005 53 IM
Lambright, Robert L., 2108 West 75th, 66208
(262-6380)
26 M 4705 50 P
Lapi, Ruth, 2012 Stratford Rd., 66208
(362-4127)
14 F 4107 37 OO
Lee, Jae M., 8100 Marty, 66204
(649-3400)
0 M 58302 65 GS
Legaspi, Pedro L., Jr., 8305 Wenonga, 66206
(831-8592)
36 M 74801 60 ANES
Leigh, Lawrence E., 8020 Santa Fe Dr., 66204
(642-4080)
12 M 1902 41 FP
Lewin, Walter, 4000 Somerset Dr., 66208
(381-1331)
30 M 1902 56 P
Lewis, James E., 3700 W. 83rd, 66208
(649-0923)
37 M 2101 63 P
Lipsey, James H., 10000 W. 75th, 66204
(831-3500)
31 M 1606 56 ORS
Lotito, Carlos A., 7301 Mission Rd., 66208
(362-8566)
29 M 13201 56 IM
Lovett, Rodney C., 5015 W. 71st Terr., 66208
(685-2151)
46 M 1902 72 Res(GS)
Manelis, Joseph, 11301 W. 99th, 66214
(321-0145)
35 M 1611 60 TS
Martin, Daniel C., 9119 W. 74th, 66204
(236-7066)
30 M 1902 58 IM

Maser, George R., 5808 Nall, 66202
(432-5515)
12 M 1902 36 FP
McCaughey, Hugh W., 11055 Cedar, 66211
(381-1724)
28 M 1902 53 IM
McEachen, William H., 3700 W. 83rd, 66208
(649-3335)
32 M 1902 59 PD
McGurk, Thomas E., 4601 W. 109th, 66211
(649-2080)
39 M 2803 65 P
McWherter, Lottie B., 5920 Nall, 66202
(362-1464)
30 F 1902 57 IE
Melendres, Juanito M., 5949 Nieman Rd., 66203
(631-3777)
36 M 74809 61 PD
Melia, B. James, Jr., 3700 W. 83rd, 66208
(648-4117)
33 M 2803 60 D
Menendez, Jose O., 8100 Marty, 66204
(649-3400)
25 M 27501 54 P
Menez, Cesar V., 4121 W. 83rd, 66208
(381-4484)
36 M 74810 56 P
Mercer, James B., 13109 W. 95th, 66215
(888-5442)
21 M 1902 51 FP
Morcos, Abdelmalak E., 74th & Grandview, 66201
(831-8592)
33 M 33004 61 ANES
Muehlberger, James J., 3700 W. 83rd, 66208
(649-3335)
34 M 3006 60 PD
Mueller, J. Kent, 3700 W. 83rd, 66208
(649-0923)
35 M 1902 62 P
Nash, Robert A., 4601 W. 109th, 66211
(649-8686)
31 M 1902 55 P
Nieman, John L., 4601 W. 109th, 66211
(381-8282)
28 M 3806 58 PD
Nosti, Juan C., 7301 Mission Rd., 66208
(262-5014)
38 M 13204 63 PS
Nunez, Julian, 10021 Mastin, 66212
(642-5000)
30 M 27501 60 FP
Oktawiec, Danuta, 5848 Fontana Dr., 66205
(236-6261)
22 F 80303 50 ANES
Osgood, George M., 3700 W. 83rd, 66208
(381-5200)
14 M 1902 44 IM
Pashino, Antonio, 1922 W. 50th Terr., 66205
(831-6400)
22 M 13201 60 P
Patterson, John R., 5317 Chadwick Rd., 66205
(262-1049)
20 M 1902 48 PD

Pearce, Eugene W. J., 9119 W. 74th, 66204
(831-2334)
24 M 2802 49 OBG
Pearce, Lunetta A. M., 9119 W. 74th, 66204
(362-1525)
26 F 3005 49 FP
Pentecost, Richard L., 8900 State Line, 66206
(383-1410)
32 M 1001 56 P
Petersen, A. Gene, 3700 W. 83rd, 66208
(648-3911)
27 M 1902 54 IM
Petersen, Gerald D., 3700 W. 83rd, 66208
(648-3911)
30 M 1902 60 IM
Petrie, Samuel C., 6100 Martway, 66202
(722-1166)
27 M 1902 58 IM
Pettegrew, Pauline K., 4601 W. 109th, 66211
(381-6765)
21 F 3006 50 FP
Phillips, Warren G., 3700 W. 83rd, 66208
(649-0923)
26 M 1902 60 P
Pitts, Ronald L., 7301 Mission Rd., 66208
(362-2524)
35 M 2002 62 D
Powell, Carol W., 8216 Cherokee Circle, 66206
(381-3785)
25 F 1902 51 P
Pronko, Michael J., 4121 W. 83rd, 66208
(648-7878)
34 M 1902 60 P
Rajanna, Krishna, 74th & Grandview, 66204
(831-8559)
37 M 49509 63 GS
Reivich, Ronald S., 10901 Granada Lane, 66211
(383-3050)
34 M 3806 60 P
Rieke, Frank A., 10411 W. 55th St., 66203
(432-1208)
16 M 1902 41 GS
Robles, Luis H., 7301 Mission Rd., 66208
(362-8566)
41 M 73701 68 IM
Rohr, Joseph H., 6100 Martway, 66202
(262-6606)
13 M 1902 42 A
Rosenberg, Stanton L., 1900 W. 75th, 66208
(383-3050)
30 M 1902 55 P
Rubin, Herbert M., 7301 Mission Rd., 66208
(362-6000)
37 M 2803 63 PD
Rumold, Mervin J., 6340 Indian Lane, 66208
(362-7010)
03 M 1902 30 GS
Saffo, Karl S., 10200 W. 75th, 66204
(362-9585)
39 M 52801 62 PS
Sawkar, Laxmidas A., 7301 Mission Rd., 66208
(384-4844)
36 M 49523 63 IM
Schaefer, Joseph P., 7301 Mission Rd., 66208
(362-2975)
36 M 1902 60 IM
Schaffer, Richard A., 6300 Glenwood, 66202
(384-4998)
42 M 1902 72 FP
Schlozmann, Daniel L., 7301 Mission Rd., Suite 333, 66208
38 M 1902 64 PUD
Schwegler, Raymond A., 6100 Martway, 66202
(362-7290)
37 M 1902 63 CD
Sevier, Samuel M., 3107 W. 21st, 66604
(296-5306)
19 M 4812 44 IM
Shaad, Dorothy J., 2322 W. 51st, 66205
(236-5033)
09 F 1902 44 OO
Shofstall, William H., 6100 Martway, 66202
(722-4747)
11 M 3901 41 ENT
Smith, Dale C., 4601 W. 109th St., 66211
(381-0353)
20 M 1902 45 OPH
Smith, Donald J., 8600 W. 95th, 66212
(642-4515)
18 M 1902 49 FP
Snodell, Firmin E., 5555 W. 58th, 66202
(432-2080)
31 M 1902 61 IM
Speer, Frederic, 5811 Outlook, 66202
(432-0625)
09 M 1902 34 A
Stanley, John H., 8600 W. 95th, 66212
(642-7600)
36 M 1803 65 CHP
Steiner, Robert M., 5311 W. 96th Terr., 66207
(753-4011)
39 M 4112 65 R
Steinzeig, Alfred S., 6500 Hodge Dr., 66208
(432-2233)
13 M 1902 37 OO
Stevenson, E. Kent, 4121 W. 83rd, 66208
(649-5566)
45 M 2803 67 CHP
Sugar, Robert L., 4601 W. 109th, 66211
(341-4343)
40 M 3508 66 OBG
Sulit, Arnulfo P., 9119 W. 74th, 66204
(236-7066)
36 M 74802 57 IM
Sullivan, Henry B., 5817 Nieman Rd., 66203
(631-6160)
24 M 1902 52 FP
Summerville, Ward W., 2120 W. 49th, 66205
(722-2341)
97 M 1902 27 PATH
Sutton, Richard L., Jr., 4121 W. 83rd, 66208
(381-0014)
08 M 2501 29 D
Tetzlaff, Archibald O., 6525 Granada Dr., 66208
(621-5335)
26 M 40721 52 ANES

Thomas, Thomas V., 5204 W. 84th Terr., 66207
(321-0145)
37 M 49549 61 TS
Tice, Galen M., 134 & State Line, RR. 31, 66209
(681-2575)
99 M 1902 29 OO
Toyama, Takeko M., 2900 W. 49th Terr., 66205
(362-8908)
40 M 57220 64 ANES
Tutera, Gino, 11055 Cedar, 66211
(341-6030)
45 M 2803 71 OBG
Vannaman, Donald D., 9703 W. 105th, 66212
(381-8282)
43 M 1902 71 PD
Wang, Sidney W., 9119 W. 74th, 66204
(722-2020)
32 M 38503 58 FP
Weaver, Jerome A., 8600 W. 95th, 66612
(341-4030)
15 M 5404 39 PD
Webb, James R., 5949 Nieman Rd., 66203
(631-0900)
34 M 1902 61 FP
Whitehead, Richard E., 7301 Mission Rd., 66208
(362-8317)
31 M 2501 58 ORS
Whitley, Douglas M., 4601 W. 109th, 66211
(341-4770)
34 M 1902 60 DERM
Whittier, Frederick C., 6332 W. 67th Terr., 64201
(861-4700)
39 M 1643 65 IM
Wigginton, Gerald D., D.O., 9119 W. 74th, 66204
(432-9119)
44 M 2840 70 PD
Wiley, John H., 9119 W. 74th, 66204
(831-2334)
37 M 4113 63 OBG
Wilson, L. Barrick, 5602 Fairway Rd., 66205
(236-8423)
09 M 1902 35 ANES
Wilson, Robert B., 7301 Mission Rd., 66208
(362-3356)
10 M 1902 40 EENT
Wurster, George R., 3700 W. 83rd, 66208
(649-0923)
35 M 1902 61 P
Ye, Richard C., 7301 Mission Rd., 66208
(362-7505)
20 M 24222 46 PS
Yohe, Ruth M., 8600 W. 95th, 66212
(383-3377)
26 F 4107 54 PDA
Young, John W., 7301 Mission Rd., 66208
(362-7505)
37 M 4706 63 PS
Zaremski, Sherman C., 7301 Mission Rd., 66208
(362-8566)
33 M 1720 58 IM
Zimmerman, Daniel D., 1900 W. 47th, 66205
(831-0910)
45 M 3005 70 IM

SMITH CENTER—913
(Smith County Society)

Relihan, Francis H., 116 S. Main, 66967
(282-3291)
84 M 1606 07 FP
Sheppard, Robert G., 120 E. Court, 66967
(282-6654)
21 M 1902 45 GS
Woods, Hugh J., 120 E. Court, 66967
(282-6654)
26 M 1902 52 FP

SOUTH HAVEN—316
(Tri-County Society)

Ubelaker, Ernest J., 67140
(892-2261)
11 M 1902 38 FP

SPEARVILLE—316
(Ford County Society)

Mabunda, Guilherme A., P.O. Box 98, 67876
(385-2665)
31 M 1720 67 GS

STAFFORD—316
(Stafford County Society)

Brown, C. Everett, 102 N. Main, 67578
(234-5251)
10 M 1902 47 FP
Ward, Robert L., 115 E. Broadway, 67578
(234-5281)
24 M 1902 52 FP

STERLING—316
(Rice County Society)

Dysart, Jack C., 112 S. Broadway, 67579
(278-2181)
12 M 1601 39 GS

STILLWELL—913
(Wyandotte County Society)

Tice, Galen M., R.R. 1, 66085
(681-2575)
99 M 1902 29 OO

STOCKTON—913
(Central Kansas Society)

Mauck, Harold C., 623 S. 2nd, 67669
(425-6280)
20 M 1902 54 FP
Votapka, William L., 623 S. 2nd 67669
(425-6280)
24 M 1902 53 FP

SUBLETTE—316
(Southwest Kansas Society)

Thiemann, Alfred H., D.O., 301 Derby, 67877
(675-2241)
12 M 1805 42 FP

SYRACUSE—316
(Southwest Kansas Society)

Petterson, Cecil E., Box 1045, 67878
(384-5731)
14 M 1902 39 FP

TONGANOXIE—913
(Leavenworth County Society)

Stevens, Philip L., Box 319, 66086
(845-2090)
27 M 1902 54 FP

TOPEKA—913
(Shawnee County Society)

Agan, Lawrence M., 1314 Pembroke Ln., 66604
(357-4306)
20 M 5002 44 R

Aleksandrowicz, Dov R., Menninger Foundation, Box 829, 66601
(234-9566)
25 M 56114 51 P

Alonso, Rene A., Continental Med. Bldg., #440, 66604
(357-6218)
20 M 27501 46 IM

Annamalai, P. R., 1015 Garfield, 66604
(232-3077)
23 M 49516 55 IM

Appelbaum, Ann, 3617 W. 6th, 66606
(234-9566)
24 F 3506 50 P

Ashley, B. John, Jr., 1616 W. 8th, 66606
(233-2280)
31 M 1902 56 OPH

Ashley, Byron J., 1616 W. 8th, 66606
(233-2280)
98 M 1902 24 OPH

Averill, Stuart, Menninger Foundation, Box 829, 66601
(234-9566)
24 M 502 58 P

Baehr, Ralph H., 310 Med. Arts Bldg., W, 66604
(234-3451)
35 M 1606 59 R

Bair, Glenn O., 417 E. 6th, 66607
(233-2361)
31 M 2401 57 IM

Baker, Phillip L., 300 Continental Med. Bldg., 66606
(357-0301)
37 M 3005 63 ORS

Baker, Ray D., 1615 W. 8th, 66606
(233-8961)
30 M 4812 55 GPM

Barnhill, C. Alton, Menninger Foundation, Box 829, 66601
(234-9566)
31 M 3601 56 P

Baude, André, 1815 Westwood Circle, 66604
(354-1946)
02 M 39606 27 IM

Beach, Richard R., 220 Med. Arts Bldg., W, 66604
(233-7943)
23 M 2802 48 IM

Beale, David A., Menninger Foundation, Box 829, 66601
(234-9566)
31 M 5404 56 P

Beck, Joseph D., 1425 W. 10th, 66604
(235-2351)
18 M 3005 43 PD

Bedford, D. R., 1424 W. 8th, 66606
(354-7075)
09 M 4802 40 CD

Beelman, Floyd C., 1319 Huntoon, 66604
(235-3981)
02 M 3840 35 FP

Beller, Willis L., 310 Med. Arts Bldg., W, 66604
(234-3451)
14 M 1902 41 R

Blake, Henry S., 918 W. 10th, 66604
(233-9681)
11 M 3520 37 GS

Bowen, Clovis W., 2200 W. 10th, 66604
(234-8601)
12 M 1902 37 FP

Bowen, Harry J., Jr., 2200 W. 10th, 66604
(234-8601)
11 M 1902 37 FP

Braunsdorf, Robert L., 2625 Ohio, 66605
(354-7630)
08 M 2501 35 FP

Bridwell, Russell E., 1710 W. 10th, 66604
(234-2624)
26 M 1902 51 ENT

Brooker, Robert M., 314 Med. Arts Bldg., E, 66604
(235-1170)
18 M 1902 43 TS

Broucek, Francis J., 2400 W. 29th, 66611
(266-9503)
32 M 1643 58 P

*Cameron, Donald D., 310 Med. Arts Bldg., 66604
(234-3451)
42 M 4804 68 R

Capooth, L. Wayne, 2015 W. 10th, 66604
(235-6253)
44 M 4706 70 EM

Cashman, Maurice R., Jr., 901 Garfield, 66606
(354-9591)
35 M 1902 61 IM

Cavanaugh, John W., 1710 W. 10th, 66604
(235-3488)
13 M 1803 39 GS

Chamberlin, Cecil R., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 3901 55 CHP

Chediak, Charles, Menninger Foundation, Box 829, 66601
(234-9566)
27 M 27501 54 P

Cherry, Arthur C., 918 W. 10th, 66604
(233-9681)
27 M 3806 53 PD

Chesky, Frank H., Menninger Foundation, Box 829, 66601
(234-9566)
33 M 1902 59 P

Cheung, Philip W. H., 918 W. 10th, 66604
(233-9681)
36 M 24338 58 R

Choy, James K. L., 918 W. 10th, 66604
(233-9681)
10 M 1643 37 U

Clark, Craig N., 3124 E. 6th, 66607
(234-5571)
29 M 1902 58 FP

Clark, Orville R., 221 Woodlawn, 66606
(232-3305)
06 M 2802 31 OO

Clark, Shirley E., 911 N. Kansas, 66608
(234-6455)
14 M 1902 42 FP

*Clayton, Robert E., D.O., 9025 SW 37th, 66614
(478-4017)

*Cochran, Paul W., Menninger Fd., Box 829, 66601
(234-9566)
54 M 4802 58 IM

*Cohen, Sidney, 417 E. 6th, 66607
(233-2361)
53 M 801 75 CD

Cohen, Louis, 918 W. 10th, 66604
(233-9681)
14 M 1902 41 IM

Cokeley, John M., V.A. Hosp., 66622
(233-6411)
30 M 5104 55 P

Collins, Dean T., Menninger Foundation, Box 829, 66601
(234-9566)
28 M 1902 55 P

Collins, Francis T., 206 Med. Arts Bldg., E, 66604
(233-6470)
14 M 1902 43 IM

Connelly, John C., Menninger Fd., 66601
(234-9566)
39 M 3806 65 P

Conroy, Robert W., Menninger Fd., 66601
(234-9566)
38 M 2604 64 P

Cotton, Robert T., 901 Garfield, 66606
(354-9591)
19 M 1902 45 IM

Crary, John E., Medical Plaza Bldg., 66604
(233-4202)
18 M 1902 43 IM

Crouch, William H., 109 Med. Arts Bldg., W, 66604
(232-8224)
20 M 2802 45 PD

Dean, David B., 1320 First Natl. Bk. Tower, 66612
(233-1344)
39 M 4804 64 P

de la Torre, Jorge, Menninger Foundation, Box 829, 66601
(234-9566)
34 M 27501 60 P

Delgado, Sergio, 918 W. 10th, 66604
(233-9681)
37 M 2501 62 ORS

Dietrich, Frederick G., KNI, 3107 W. 21st, 66604
(296-5401)
19 M 1902 44 FP

Dunagin, Jack A., 918 W. 10th, 66604
(233-9681)
20 M 1902 44 P

Durst, Robert D., Jr., 1706 W. 10th, 66604
(357-5166)
42 M 2803 69 D

Elder, Douglas M., 310 Medical Arts Bldg., 66604
(234-3451)
41 M 1902 69 R

Farrell, Dennis H., Menninger Foundation. Box 829. 66601
(234-9566)
26 M 5404 55 P

Feagan, Jerry, II, 901 Garfield, 66606
(354-9591)
39 M 1902 63 GE

Fernandez, Luis A., 1615 W. 8th, 66606
(233-8961)
14 M 27501 41 PD

Field, Richard A., 224 Med. Arts Bldg., W, 66604
(235-3451)
29 M 1902 55 ANES

Fillman, Eldon M., 1001 Garfield, 66604
(233-4256)
20 M 1611 44 U

Fink, A. Arthur, 105 Med. Arts Bldg., W, 66604
(234-8621)
13 M 6501 37 PATH

*Flowe, Robert F., 2015 W. 10th, 66604
(235-6253)
38 M 4707 64 EM

Ford, Fred L., 1119 W. 10th, 66604
(234-5516)
11 M 2501 36 GS

Foster, Charles G., 631 Horne, 66606
(232-6964)
21 M 4102 47 IM

Foster, D. Bernard, V.A. Hospital, 66622
(272-3111)
14 M 2501 38 N

Ganzarain, Ramon C., Menninger Foundation, Box 829, 66601
(234-9566)
23 M 23101 47 P

Garza, A. Cesar, Menninger Fd., 66601
(234-9566)
43 M 64902 68 P

Gay, John D., 310 Med. Arts Bldg., 66604
(234-3451)
42 M 4802 68 DR

Gendel, Evalyn S., Box 1192, 66601
(296-3506)
22 F 2105 49 GPM

Gendel, Joseph, 918 W. 10th, 66604
(233-9681)
12 M 4804 37 ORS

Gleason, Jimmie A., 8th & Lincoln, 66606
(233-5101)
33 M 1902 58 OBG

Goering, Emil L., 417 E. 6th, 66607
(233-2361)
27 M 1902 57 FP

Gootee, Joseph E., 224 Med. Arts Bldg., W, 66604
(235-3451)
21 M 2834 47 ANES

Graham, Charles P., 400 Continental Bldg., 66606
(354-9504)
40 M 3601 65 GS

Gray, David E., 115 W. Crane, 66603
(234-8625)
16 M 1606 42 GEN

Grayib, Antoine S., 417 E. 6th, 66607
(233-2361)
18 M 60501 46 IM

Green, Phillip E., Menninger Foundation, Box 829, 66601
(234-9566)
31 M 3901 56 P

Greene, Horace T., 1710 W. 10th, 66604
(354-7508)
15 M 401 42 FP

Greenwood, Edward D., Menninger Foundation, Box 829, 66601
(234-9566)
01 M 702 38 CHP

Greer, Richard H., 918 W. 10th, 66604
(233-9681)
09 M 1902 39 IM

Grigsby, George T., Jr., Stormont Vail Hosp., 66606
(234-9961)
41 M 3601 66 IM

Haines, Robert A., State Office Bldg., 66612
(296-3774)
16 M 3841 42 ADM

Halley, M. Martin, 40 Medical Arts Bldg., 66604
(233-1710)
27 M 2401 53 TS

Harris, Hubert L., 210 Med. Arts Bldg., E, 66604
(233-3151)
12 M 1803 39 D

Harris, Patricia A., 1617 W. 26th, 66611
(354-8461)
29 F 1902 54 IM

Harrison, Hall E., 901 Garfield, 66606
(354-9591)
39 M 2802 65 CD

Hartocollis, Peter, Menninger Foundation, Box 829, 66601
(234-9566)
22 M 86905 55 P

Hasselle, James E., Menninger Foundation, Box 829, 66601
(234-9566)
35 M 4706 59 P

Hebbar, Satya N., 918 W. 10th, 66604
(233-9681)
39 M 49509 62 CD

Herrera, Jorge J., 417 E. 6th, 66607
(233-2361)
27 M 64901 55 IM

Hiebert, John B., 420 Continental Med. Bldg., 66606
(357-6251)
40 M 1902 68 CD

*Hill, Robert N., 901 Garfield, 66604
(354-9591)
41 M 1902 67 IM

Hinkle, Dave, Menninger Children's Hosp., Box 829, 66601
(234-9566)
36 M 4802 61 CHP

Hirschberg, J. Cotter, Menninger Foundation, Box 829, 66601
(234-9566)
15 M 1602 40 CHP

Hobart, Wilson K., 623 Mills Bldg., 66612
(235-6356)
87 M 1606 13 OPH

Hobbs, Donald D., Continental Med. Bldg., 66606
(233-7491)
28 M 2803 54 ORS

Horne, James B., 315 W. 4th, 66603
(234-2120)
26 M 1606 52 P

Hoyt, Arthur W., 2055 Clay, 66604
(234-5663)
14 M 2501 40 P

Hsu, Cheng H., 918 W. 10th, 66604
(233-9681)
41 M 38502 66 U

Huaman, Antonio, 105 Med. Arts Bldg., W, 66604
(234-8621)
29 M 73701 56 PATH

Huston, Joseph W., 918 W. 10th, 66604
(233-9681)
35 M 1902 63 ORS

Hutton, Frederick A., 102 Med. Plaza Bldg., 66604
(234-0553)
29 M 6701 58 PS

Jackson, Linda H., Menninger Foundation, Box 829, 66606
(234-9566)
42 F 3601 67 Res(P)

Jacoby, Robert E., II, Continental Med. Bldg., 66606
(232-9394)
46 M 2307 72 FP

Janssen, Erwin T., Menninger Fd., Box 829, 66601
(234-9566)
36 M 1803 62 P

Johnson, Frederick E., 5000 Huntoon, Apt. 608, 66604
(273-0205)
92 M 2843 21 OO

*Johnson, Lee Roy W., 2400 W. 29th, 66611
(267-0150)
37 M 1606 63 P

Joss, Charles S., 221 Med. Arts Bldg., 66604
(232-0444)
14 M 1606 40 GS

Joyce, G. Bernard, 200 Continental Med. Bldg., 66606
(233-7491)
17 M 1902 44 ORS

Katz, Jerome B., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 2101 44 P

Kauffman, Gerald Galen, 2700 W. 6th Ave., 66606
(296-4438)
43 M 4002 69 P

Kavel, Karl K., Medical Plaza Bldg., 66604
(234-2663)
36 M 3605 64 PDA

Kelly, Dan A., 109 Med. Arts Bldg., W., 66604
(232-7223)
39 M 2803 64 PD

Kennedy, Howard U., 1119 W. 10th, 66604
(233-8268)
18 M 401 44 IM

Keys, Robert C., Jr., 216 Med. Arts Bldg., 66604
(235-3451)
36 M 1902 62 ANES

Kim, Yong W., 631 Horne, 66606
(232-6964)
28 M 58302 49 IM

Kindling, Paul H., 40 Med. Arts Bldg., 66604
(233-1710)
30 M 3545 61 GS

Kirkegaard, Rodger S., 918 W. 10th, 66604
(233-6493)
30 M 1803 56 OPH

Klemmer, Herbert, Menninger Foundation, Box 829, 66601
(234-9566)
11 M 4102 37 P

Kovarik, Ernest D., 900 Washburn, 66606
(357-5171)
36 M 3005 64 OPH

Kowalski, Anthony M., Menninger Foundation, Box 829, 66601
(234-9566)
31 M 5606 56 P

Kroll, Harry G., 200 Continental Med. Bldg., 66606
(233-7491)
24 M 1602 50 ORS

Lacoursiere, Roy B., V.A. Hosp., 66622
(272-3111)
37 M 6701 66 P

Lawson, Dwight, 108 Meadow Ln., 66606
(272-0667)
06 M 2802 30 OO

Lawson, Robert C., 310 Med. Arts Bldg., W, 66604
(234-3451)
25 M 801 48 R

Lee, Song-Dow, 303 Med. Arts Bldg., 66604
(235-3451)
43 M 38505 68 ANES

Lee, Song P., 918 W. 10th, 66604
(233-9681)
34 M 38502 61 OTO

Lentz, William R., 308 Med. Arts Bldg., W, 66604
(235-3443)
24 M 1902 53 FP

Lessenden, Chester M., Jr., 103 Medical Plaza Bldg., 66604
(234-5533)
18 M 1902 43 D

Levy, Edwin Z., Menninger Foundation, Box 829, 66601
(234-9566)
29 M 1606 54 P

Lumb, Raymond C., 901 Garfield, 66606
(354-9591)
42 M 1001 68 RHU

Lynch, John A., Continental Med. Bldg., 66606
(233-7491)
30 M 2834 55 ORS

Marshall, Bromell M., 704 Mills Bldg., 66612
(234-5742)
08 M 2802 34 U

Martin, William O., 216 Med. Arts. Bldg., W., 66604
(235-3451)
19 M 1902 44 ANES

Mau, Walter, 301 Medical Blaza Bldg., 66604
(233-4256)
16 M 1611 40 U

McCarter, Duane K., 2101 W. 10th, 66604
(233-8979)
26 M 1902 58 IM

McClellan, John W., 1710 W. 10th, 66604
(234-2624)
11 M 3006 36 ENT

McClintock, Edward A., 111 Med. Arts Bldg., E, 66604
(354-8518)
07 M 1902 33 IM

McClure, James A., 202 Medical Plaza Bldg., 66604
(233-4256)
18 M 1902 44 U

McElroy, Robert T., 221 Med. Arts Bldg., 66604
(232-0767)
35 M 1902 61 GS

Mebed, Ali A. K., Menninger Fd., Box 829, 66601
(234-9566)
19 M 33003 44 P

*Megibow, Alan D., 918 W. 10th, 66604
(233-9681)
37 M 3503 64 CHP

Mehrhof, Edward G., 900 Washburn, 66604
(234-0156)
32 M 3515 62 CHP

Meidinger, Richard, 310 Med. Arts Bldg., 66604
(234-3451)
39 M 1902 65 DR

Menninger, Karl A., Menninger Foundation, Box 829, 66601
(234-9566)
93 M 3545 17 N-P

Menninger, Robert G., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 3545 52 P

Menninger, Roy W., Menninger Foundation, Box 829, 66601
(234-9566)
26 M 3520 51 P

Menninger, W. Walter, Menninger Foundation, Box 829, 66601
(234-9566)
31 M 3520 57 P

Miller, M. Kirk, Jr., 4015 W. 21st, 66604
(234-5571)
23 M 3545 48 FP

Mills, Philip E., Jr., 1119 W. 10th St., 66604
(234-5661)
36 M 1902 64 N
*Mittleman, Frederick S., Menninger Fd., Box 829, 66601
(234-9566)
45 M 3006 70 P
Modlin, Herbert C., Menninger Foundation, Box 829, 66601
(234-9566)
13 M 3005 38 P
Morris, Merle D., 1401 W. 10th, 66604
(234-2877)
21 M 1902 45 OBG
Morrison, David E., Jr., Menninger Foundation, Box 829, 66601
(234-9566)
39 M 506 65 P
Morrow, J. Tarlton, Menninger Foundation, Box 829, 66601
(234-9566)
23 M 4804 47 CHP
Moyer, John D., 202 Med. Plaza Bldg., 66604
(233-4256)
39 M 1902 65 U
Muceno, Dar, 3617 W. 6th, 66606
(234-9566)
37 M 74801 61 IM
Mueller, Arnold V., 918 W. 10th, 66604
(233-9681)
31 M 3005 57 IM
Myers, JoAnn, Menninger Foundation, Box 829, 66601
(234-9566)
28 F 1902 53 P
Nabours, Richard D., 4228 W. 29th St. Terr., 66614
(272-7190)
27 M 1902 54 FP
Nelson, James N., 918 W. 10th, 66604
(233-9681)
30 M 1902 59 P
Nice, G. William, 112 Med. Arts Bldg., E, 66604
(235-8090)
22 M 1902 46 IM
Novotny, Peter C., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 15407 55 P
Nystrom, Curtis A., 2707 W. 29th, 66614
(272-8440)
23 M 1902 54 FP
Obourn, Robert L., 1150 Oakley, 66604
(234-9566)
19 M 2802 50 P
Olmo-Terron, Neftali, Menninger Fd., 66601
(234-9566)
38 M 84705 65 P
O'Neil, Robert H., 901 Garfield, 66606
(354-9591)
20 M 1902 45 IM
Parman, Robert D., 109 Med. Arts Bldg., W, 66604
(232-8224)
27 M 1902 54 PD
Patel, Vinod, 901 Garfield, 66606
(357-6171)
47 M 49531 69 N
Payne, Robert R., 200 Continental Med. Bldg., 66606
(233-7491)
29 M 1902 55 ORS
*Pellegrini, Adolph, V.A. Hosp., 66622
(272-3111)
23 M 56117 47 GS
Pendharker, M. B., Memorial Hospital, 66607
(233-2361)
39 M 49501(b) 61 IM
Penn, George M., Menninger Foundation, Box 829, 66601
(234-9566)
30 M 4802 58 P
Peterson, Dean L., 224 Med. Arts Bldg., W, 66604
(235-3451)
24 M 1902 54 ANES
Peterson, Robert L., 1500 W. 10th, 66604
(272-9815)
36 M 1902 62 FP
Peterson, Vernon J., 310 Med. Arts Bldg., 66604
(234-3451)
42 M 512 68 R
Petrik, Edwin L., Memorial Hospital, 66607
(233-2361)
35 M 1902 64 IM
Pfuetze, Robert E., 209 Med. Arts Bldg., 66604
(232-9257)
09 M 1902 35 OBG
Pierce, Charles F., 918 W. 10th, 66604
(233-9681)
24 M 4101 51 OBG
Pierce, Donald R., 307 Med. Arts Bldg., 66604
(235-2226)
23 M 5101 49 FP
Poggi, Raymond G., Menninger Fd., Box 829, 66601
(234-9566)
43 M 2604 68 FP (Res)
Polly, Richard E., 631 Horne, 66606
(357-0301)
42 M 1803 68 ORS
Porter, Robert D., 901 Garfield, 66606
(354-9591)
41 M 2802 67 IM
Powell, Benson M., 400 Continental Med. Bldg., 66606
(354-9504)
26 M 1606 49 TS
Powell, William R., 833 Garfield, 66606
(235-8707)
30 M 1902 54 GS
Powers, Harold W., 10633 Welk Dr., Sun City, Arizona 85351
03 M 1803 27 OO
Preston, Ralph R., 5025 Brentwood Rd., 66606
(234-2624)
19 M 1902 44 ENT
Prokop, Bradford S., 900 Washburn, 66606
(357-5173)
32 M 1606 57 OPH

Pusitz, Manuel E., 701 Grandview, 66606
(234-4943)
04 M 6501 29 OO
Pyle, Lucien R., 211 Med. Arts Bldg., 66604
(233-1304)
01 M 1601 28 OBG
Rainbow, Kathryn A., 2916 Kentucky, 66605
(496-4385)
21 F 4707 48 P
Raines, Omer M., 1710 W. 10th, 66604
(233-3611)
99 M 2802 25 GS
Ramsey, Bartlett W., 1001 Horne, 66604
(234-3465)
25 M 1902 50 PD
Ransdell, Edgar C., 8th & Lincoln, 66606
(235-5352)
41 M 3005 OBG
Ransom, James H., Med. Plaza Bldg., 66604
(234-2663)
36 M 1803 62 A
Rayburn, Frederick W., Santa Fe Hospital, 66607
(233-2364)
11 M 4113 37 IM
Reid, David W., 3017 Sowers Ct., 66604
(234-9566)
43 M 2501 69 CHP (Res)
Reinking, Victor E., 4408 Holly Lane, 66604
(233-9681)
26 M 1902 51 IM
*Reimer, Donald R., 303 Med. Arts Bldg., 66604
(235-3451)
34 M 702 62 ANES
Rendon, Humberto, 105 Med. Arts Bldg., 66604
(234-8621)
36 M 73705 64 PATH
Reymond, Ralph D., 310 Med. Arts Bldg., 66604
(234-3451)
37 M 2301 67 R
Riedel, Robert H., 6731 SW Aylesbury Rd., 66610
(478-4746)
04 M 2802 28 OO
Roberts, Howard E., 700 Harrison, 66603
(354-8461)
12 M 2105 40 ADM
Roberts, Warren E., 2123 Gage, 66614
(272-5797)
25 M 1902 57 FP
Roeder, Robert E., 420 Continental Med. Bldg., 66606
(357-6251)
40 M 1902 67 IM
Roskos, S. Richard, Menninger Fd., 66601
(234-9566)
42 M 2604 68 P
Ross, Jack L., Menninger Foundation, Box 829, 66601
(234-9566)
32 M 4812 56 P
Rovinski, Helen T., 1631 MacVicar, 66604
(272-3111)
16 F 1001 43 PM
Roy, William R., 1561 Lakeside Dr., 66604
(273-0150)
26 M 1606 48 ADM
Rucker, Clemens, 1205 W. 29th, 66611
86 M 2822 05 OO
Runnels, John B., 901 Garfield, 66606
(357-6171)
35 M 1902 61 NS
Sanchez, Rogelio, 918 W. 10th, 66604
(233-9681)
31 M 64901 64 U
Sargent, Joseph, Menninger Foundation, Box 829, 66601
(234-9566)
32 M 2501 58 IM
Saylor, Edward H., 918 W. 10th, 66604
(233-9681)
39 M 1902 65 PD
Saylor, Leslie L., 918 W. 10th, 66604
(233-9681)
07 M 1606 35 GS
Scamman, W. Wike, 105 Med. Arts Bldg., W, 66604
(234-8621)
32 M 4705 57 PATH
Schloesser, Harvey L., 918 Merchants Natl. Bank, 66612
(235-3184)
21 M 3901 51 P
Segerson, John A., 901 Garfield, 66606
(357-6171)
18 M 3545 43 N
Sehdev, Harcharan S., Menninger Foundation, Box 829, 66601
(234-9566)
35 M 06101 63 CHP
*Sehdev, Joan, 417 E. 6th, 66607
(233-2361)
40 F 6101 63 FP
Settle, Russell O., Jr., Menninger Foundation, Box 829, 66601
(234-9566)
35 M 1902 60 P
Settle, Russell O., Sr., 2320 Chelsea Dr., 66614
(272-8859)
04 M 1902 29 P
Sevier, Samuel M., 3113 College, 66611
(267-0633)
19 M 4812 44 IM
Shaw, Joseph L., 204 Med. Arts Bldg., 66604
(235-6221)
34 M 511 60 ORS
Sheafor, Douglas, 918 W. 10th, 66604
(233-9681)
34 M 1902 60 P
Sherwood, Clarence E., 400 Continental Med. Bldg., 66606
(354-9504)
22 M 702 53 GS
Shiney, Margaret L., 417 E. 6th, 66607
(233-2361)
26 F 1902 54 IM

Simpson, William S., Menninger Foundation, Box 829, 66601
(234-9566)
24 M 6001 48 P

Sisk, Phillip B., 310 Med. Arts Bldg., W, 66604
(234-3451)
32 M 1803 56 R

Smith, Leo A., 918 Buchanan, 66604
(357-0226)
08 M 3006 33 OO

Sodomsky, Martin E., 900 Washburn, 66604
(234-0156)
37 M 6201 61 P

Spearman, Jesse L., 24 Medical Arts Bldg., 66604
(234-2879)
20 M 1902 54 OBG

Spencer, Millard C., 310 Med. Arts Bldg., 66604
(234-3451)
28 M 1902 55 R

Spencer, Wayne E., 15 Med. Arts Bldg., E., 66604
(357-6209)
38 M 1902 64 GE

Stein, Joseph M., 901 Garfield, 66606
(357-6171)
24 M 3519 47 N

Stock, Karl W., 1701 W. 10th, 66604
(235-5205)
13 M 2834 37 OPH

Swogger, Glenn, Jr., 5000 Redbud Lane, 66606
(234-9566)
35 M 3806 60 P

Takahashi, Tetsuro, 2228 Llandovery Lane, 66614
(234-9566)
32 M 57211 60 P

Tappen, Daniel L., 8th & Lincoln, 66606
(233-5101)
16 M 1902 41 OBG

Targownik, Karl K., Reception-Diagnostic Cntr., Box 1558, 66601
(296-7281)
15 M 40710 49 P

Tarnower, William, Menninger Foundation, Box 829. 66601
(234-9566)
21 M 4802 48 P

Tempero, Stephen, 310 Med. Arts Bldg., 66604
(234-3451)
42 M 1606 67 R

*Teusink, J. Paul, Menninger Fd., Box 829, 66601
(234-9566)
41 M 2501 69 P

*Thoms, Norman W., 40 Med. Arts Bldg., 66604
(832-2444)
34 M 2501 59 TS

Thurston, David E., 200 Continental Med. Bldg., 66606
(233-7491)
29 M 1902 55 ORS

Tozer, Richard C., 901 Garfield, 66606
(357-6171)
19 M 4102 45 NS

Travis, John W., 310 Med. Arts Bldg., W, 66604
(234-3451)
29 M 1606 55 TR

Trees, Clyde B., 3700 Huntoon, 66604
(273-0307)
09 M 2401 33 OO

Treger, Newman V., 1704 W. 10th, 66604
(354-8761)
16 M 1902 40 IM

Triplett, William B., 1805 W. 10th, 66604
(233-5290)
23 M 2002 53 A

Truitt, William R., St. Francis Hosp., 66606
(354-8411)
37 M 3515 66 EM

*Twemlow, Stuart W., V.A. Hosp., 66622
(272-3111)
41 M 67101 66 P

Uhr, Nathaniel, Menninger Foundation, Box 829, 66601
(234-9566)
00 M 3519 21 IM

VandeGarde, Larry D., 800 Lincoln, 66606
(233-5101)
41 M 1803 66 OBG

Viswanathan, Byravan, 417 E. 6th, 66607
(233-2361)
39 M 49534 62 HEM

Voth, Harold M., Menninger Foundation, Box 829, 66601
(234-9566)
22 M 1902 47 P

Wallace, Leo F., St. Francis Hosp., 66606
(354-8411)
17 M 1902 41 EM

Walls, William J., 310 Med. Arts Bldg., 66604
(234-3451)
39 M 2834 66 DR

Walz, Royce C., 900 Washburn, 66606
(234-2676)
27 M 15407 60 P

Ward, Howard N., 901 Garfield, 66606
(354-9591)
37 M 1606 62 HEM

Ware, Lucile M., Menninger Foundation, Box 829, 66601
(234-9566)
29 F 3501 53 CHP

Waxse, I. Joseph, 5132 Brentwood, 66606
(272-9066)
12 M 1902 39 FP

Weaver, Walter D., 900 Washburn, 66606
(357-5171)
41 M 1902 69 OPH

Weber, Darrell J., 1710 W. 10th, 66604
(233-2305)
16 M 1902 44 FP

White, Harry H., 901 Garfield, 66606
(357-6171)
34 M 1902 58 IM

*Wiese, Lowell M., Forbes AFB, #740, 66620
(296-7789)
27 M 4706 59 PH

Wiksten, Vernon C., 801 Terrace Ave., 66611
(233-6645)
11 M 1902 37 OO
Wilcox, Donald E., 122 Danbury Lane, 66606
(296-3782)
24 M 1902 55 PH
Williams, Howard V., State Office Bldg., 66612
(296-3471)
18 M 1205 43 P
Wilson, Marvin H., 38 Med. Arts Bldg., 66604
(234-0591)
38 M 1003 64 GS
Wong, Normund, Menninger Fd., Box 829, 66601
(234-9566)
34 M 502 59 P
Woods, Robert P., 901 Garfield, 66606
(357-6171)
14 M 6701 40 NS
Woollcott, Philip, Jr., Menninger Foundation, Box 829, 66601
(234-9566)
28 M 4102 54 P
Young, Theodore E., 107 Med. Arts Bldg., 66604
(232-0576)
22 M 2307 46 PD
Zee, Hugo J., 1717 Grove, 66606
(234-9566)
30 M 1902 58 P
Zimmerman, William H., 515 Mills Bldg., 66612
(232-4377)
20 M 3006 52 GS

TRIBUNE—316
(Southwest Kansas Society)

Werner, Willard F., 67879
(376-4251)
24 M 1902 52 FP

TROY—913
(Northeast Kansas Society)

Bascom, Charles H., 210 S. Main, 66087
(985-2211)
31 M 1902 56 FP

ULYSSES—316
(Southwest Kansas Society)

Brewer, Marshall A., 223 N. Main, 67880
(356-1261)
19 M 1902 46 FP
Dodson, William W., 207 N. Main, 67880
(356-3101)
24 M 1902 51 FP
Greenwood, James F., P.O. Box 424, 67880
(356-3399)
33 M 1611 65 FP
Tillotson, Don R., 223 N. Main, 67880
(346-1201)
32 M 1902 65 FP

VALLEY CENTER—316
(Sedgwick County Society)

Daniels, Robert M., 130 Miles Ave., 67147
(755-0394)
24 M 1902 54 FP
Wilson, Robert L., R.R. #1, 67147
(685-2151)
30 M 1902 57 EM
Winchester, Eugene B., R.R.2, Box 196C, 67147
(262-6262)
18 M 3006 56 FP

WAKEENEY—913
(Central Kansas Society)

Berner, Neal E., 323 Russell Ave., 67672
(743-2124)
44 M 1902 72 FP
Clark, David H., 323 Russell Ave., 67672
(743-2124)
36 M 1902 62 FP
Hamilton, James J., 323 Russell Ave., 67672
(743-2124)
30 M 1902 55 FP

WAMEGO—913
(Pottawatomie County Society)

Borgendale, Llewellyn V., 1601 Sunset, 66547
(456-2291)
29 M 1902 60 FP
Braden, Bill L., 507 Elm, 66547
(456-2291)
31 M 1902 60 FP
Clark, Laurence A., 227 Lincoln, 66547
(456-2291)
12 M 1902 42 FP

WASHINGTON—913
(Washington County Society)

Bitzer, Donald A., 115 W. 3rd, 66968
(325-2910)
03 M 3005 26 FP
Gomel, Ray G., 201 West 2nd, 66968
(325-2760)
99 M 1902 28 OO
Warren, Linda D., 107 E. 3rd, 66968
(325-2240)
44 F 1902 70 FP

WATHENA—913
(Northeast Kansas Society)

Peterson, Evan A., Jr., Box 98, 66090
(989-3122)
24 M 1803 55 FP

WELLINGTON—316
(Tri-County Society)

Cole, Ward M., 110 N. Jefferson, 67152
(326-7221)
08 M 1902 36 FP
Diacon, James L., 124 E. Lincoln, 67152
(326-2111)
24 M 3901 52 FP
Hesse, Robert S., 1323 North A, 67152
(326-7792)
43 M 1902 69 PATH
Howell, J. Allen, 1005 S. Washington, 67152
(326-3321)
06 M 4804 31 GS

McCormick, Eugene C., Security State Bank Bldg., 67152 (326-3914)
31 M 1902 56 FP
McGovern, James L., 124 E. Lincoln, 67152 (326-2111)
22 M 3901 52 FP
Rose, Shelby D., St. Lukes Hospital, 67152 (326-7451)
40 M 2012 68 PATH

WESTMORELAND—913
(Pottawatomie County Society)

Dechairo, Thomas, 66549 (457)3311)
13 M 1902 36 FP

WICHITA—316
(Sedgwick County Society)

Acker, Stevens B., 3126 E. Central, 67214 (682-7561)
33 M 1902 58 FP
Adams, Austin J., 435 N. Roosevelt, 67208 (682-4812)
10 M 4804 36 OO
Agustin, Conrado M., 1035 N. Emporia, 67214 (267-3389)
38 M 74807 62 OBG
Ahlstrand, Richard A., 3333 E. Central, 67208 (685-1291)
41 M 3005 67 DR
Alfonso, Manuel, 3244 E. Douglas, 67208 (689-9445)
37 M 84710 66 ANES
*Anderson, Donald S., 3333 E. Central, 67208 (685-4389)
42 M 1902 69 ANES
Anderson, Eugene G., Sutton Place, 67202 (265-8619)
19 M 1902 44 OBG
Anderson, Harry O., 3244 E. Douglas, 67208 (689-9495)
08 M 1601 34 ORS
Anderson, V. Gary, 1125 S. Clifton, 67218 (685-2371)
42 M 3901 67 EM
Angulo, Alberto E., 3244 E. Douglas, 67208 (689-9477)
39 M 26404 64 GE
Arthur, Arvin, 1035 N. Emporia, 67214 (263-3271)
42 M 1720 66 CD
Artz, Tyron D., 3244 E. Douglas, 67208 (689-9171)
41 M 1803 67 ORS
Ashmore, Arthur L., 5025 E. Kellogg, 67218 (682-1534)
05 M 1902 32 TS
Aunins, John, 4853 Hemlock, 67216 (524-6805)
28 M 4706 56 FP
Bacon, Arthur H., 3244 E. Douglas, 67208 (689-9463)
13 M 3515 37 NS
Bailey, Donald C., 3243 E. Murdock, 67208 (685-1491)
37 M 3901 65 ORS
Bair, Albert E., 3244 E. Douglas, 67208 (689-9325)
16 M 1902 44 GS
Barker, Benjamin W., 1148 S. Hillside, 67211 (683-4647)
18 M 1902 51 FP
Barnes, Marian, 211 S. Belmont, 67218 (684-2679)
97 F 2802 37 OO
Barnett, Arnold M., 3243 E. Murdock, 67208 (685-2377)
32 M 83601 54 N
Bartlett, Wayne C., 3244 E. Douglas, 67208 (689-9124)
07 M 1601 31 GS
*Bass, Oral E., II, 851 N. Hillside, 67214 (685-1371)
40 M 2803 71 U
Bauman, M. Leon, 1629 University, 67213 (265-7685)
01 M 1902 44 OO
Baumann, Paul A., 3333 E. Central, 67208 (685-1291)
32 M 5605 57 R
Beaver, James L., 959 N. Emporia, 67214 (263-3262)
09 M 2101 35 GS
Bebak, Donald M., 2322 E. Central, 67214 (263-6186)
32 M 3508 58 ANES
Behling, Helmut H., 808 N. Emporia, 67214 (265-1684)
38 M 4102 64 R
Bethel, Chandler S., 5107 E. 21st, 67208 (682-6559)
34 M 1902 59 IM
Biermann, Henry J., 425 E. Murdock, 67214 (265-6287)
27 M 3006 52 GS
Biermann, William J., 1435 Lieunett, 67203 (265-0594)
04 M 3006 29 OO
Binyon, Kernie W., 4618 E. Central, 67208 (684-2819)
24 M 1902 56 FP
Blaylock, Hoyt C., 835 N. Hillside, 67214 (685-4395)
21 M 1902 45 D
Blood, Mary J., 647 N. Hillside, 67214 (682-4559)
13 F 1902 49 PD
Bloom, L. Theil, 3244 E. Douglas, 67208 (689-9422)
32 M 1902 57 R
Bond, Roger C., 3333 E. Central, 67208 (684-0251)
40 M 5606 67 CD
Bowman, Harold S., 1441 N. Rock Rd., 67208 (682-6212)
04 M 2802 30 OO

Boyd, Zane R., 9717 Par Lane, 67212
(262-6211)
26 M 3005 52 FP
Boyle, Hugh H., 424 N. Woodlawn, 67208
(686-2193)
33 M 3806 60 PATH
Brake, David, 3333 E. Central, 67208
(685-1291)
43 M 702 68 R
Braun, William T., III, 3333 E. Central, 67208
(685-1291)
37 M 2802 61 R
Brinton, Edward S., 959 N. Emporia, 67214
(262-3613)
15 M 1611 41 GS
Brito, Raul E., 851 N. Hillside, 67214
(685-1371)
32 M 31901 59 U
Brosius, Frank C., 3333 E. Central, 67208
(684-0251)
25 M 1902 49 CD
Brown, Alex L., 215 Patton, 67208
(267-1221)
15 M 3840 40 P
*Brown, David J., 425 E. Murdock, 67206
(265-6287)
45 M 1902 71 GS
Brown, Robert L., 5025 E. Kellogg, 67218
(682-1534)
21 M 1902 49 FP
Brown, Ronald L., 1128 S. Clifton, 67218
(684-7251)
45 M 3901 71 ANES
Brown, Val J., 1802 N. Hydraulic, 67214
(265-1137)
24 M 1003 47 FP
Browning, William H., 851 N. Hillside, 67214
(685-1371)
16 M 1902 43 U
*Bruner, Kenneth W., Jr., 929 N. St. Francis, 67214
(262-6262)
44 M 2401 70 PATH
Bubeck, Ralph W., 3244 E. Douglas, 67208
(689-9396)
36 M 1803 62 IM
Buck, Ben H., Jr., 5105 E. 21st, 67208
(684-2081)
17 M 2834 43 TS
Budetti, Joseph A., 427 N. Hillside, 67214
(686-6608)
11 M 3509 36 OTO
Burney, William W., 1755 N. Madison, 67214
(264-8311)
17 M 1902 52 FP
Burpee, James F., 851 N. Hillside, 67214
(685-1371)
39 M 5605 66 U
*Bustamante, Sergio A., WSU Branch, KUMC, 67219
(689-3097)
42 M 64901 59 PD
Buth, Dennis K., 2916 E. Central, 67214
(684-5243)
45 M 1902 72 IM
Butin, J. Walker, 3244 E. Douglas, 67208
(689-9477)
23 M 1902 47 GE
Caliendo, Daniel J., Jr., 550 N. Hillside, 67214
(685-2563)
41 M 1902 67 EM
Callahan, William P., Sr., 5051 E. Lincoln, 67218
(683-4534)
88 M 2820 10 OO
Capper, Stanley L., 3244 E. Douglas, 67208
(689-9206)
37 M 1803 67 D
Carreau, Ernest P., 5105 E. 21st, 67208
(682-0281)
17 M 1902 44 GS
Carter, Mack A., 3333 E. Central, 67208
(684-5158)
18 M 1902 50 OPH
Casey, John J., 3243 E. Murdock, 67208
(685-2377)
25 M 2604 57 NS
Cauble, Wilbur G., 1148 S. Hillside, 67211
(683-1681)
12 M 2834 39 GS
Cawley, Leo P., 550 N. Hillside, 67214
(685-2151)
22 M 3901 52 PATH
*Chang, Frederic C., 905 N. Emporia, 67214
(263-0296)
35 M 2401 59 GS
Chapman, James H., 808 N. Emporia, 67214
(265-1684)
27 M 4706 63 R
Chard, Frederick, 3244 E. Douglas, 67208
(689-9183)
15 M 5605 39 D
*Chiu, Chu-shin, 3244 E. Douglas, 67208
(689-9178)
38 M 2604 75 IM
Clark, Courtney, 1128 S. Clifton, 67218
(684-7251)
30 M 1902 56 ANES
Clifton, H. David, 3600 E. Harry, 67218
(685-1111)
41 M 401 65 R
*Cohlmia, Jerry B., 2916 E. Central, 67214
(684-5243)
43 M 1902 70 IM
*Coleman, Gary W., 3243 E. Murdock, 67208
(685-8231)
46 M 1902 72 FP
Coleman, Thomas J., 959 N. Emporia, 67214
(265-0749)
18 M 3545 51 IM
*Collier, Harold W., 1128 S. Clifton, 67218
(684-7251)
45 M 1902 71 ANES
Concepcion, Eugenio S., Jr., 1152 S. Clifton, 67218
(681-2401)
39 M 74802 64 TS
*Connolly, Maurice R., V.A. Adm., 67218
(685-2221)
12 M 2002 38 FP

Cook, D. Ray, 315 N. Hillside, 67214
(686-3391)
42 M 2012 71 FP
Cook, G. Edward, 3600 E. Harry, 67218
(685-1111)
42 M 401 67 R
Corrigan, George F., 550 W. Central, 67203
(267-9185)
95 M 3006 20 OO
Cossman, F. Price, 851 N. Hillside, 67214
(685-1371)
28 M 1902 57 U
Cowles, George E., 47 Mission Rd., 66206
(683-0317)
96 M 1902 21 OO
Cowles, Gordon T., 3333 E. Central, 67208
(683-2661)
32 M 1902 58 OBG
Cronin, Donald J., 3244 E. Douglas, 67208
(689-9227)
16 M 2604 40 ENT
Crow, Ernest W., 3333 E. Central, 67208
(684-0251)
20 M 1902 44 CD
Crowley, Edward X., 345 N. Hillside, 67214
(682-4519)
14 M 1643 39 GYN
Cummings, Richard J., 427 N. Hillside, 67214
(686-6608)
32 M 1902 57 OTO
Davenport, S. Scott, 3333 E. Central, 67208
(684-8811)
30 M 401 61 N
Davidson, Harry T., 556 N. Broadview, 67202
(686-8282)
87 M 3802 11 OO
Davis, Ronald B., 3600 E. Harry, 67218
(685-1111)
46 M 1902 72 FP (Res)
DeBakker, Jan B., 1035 N. Emporia, 67214
(263-4903)
25 M 5104 59 GS
*Deckert, Rosalie E., 3244 E. Douglas, 67208
(689-9335)
47 F 4101 73 IM
DeJong, David C., 929 N. St. Francis, 67214
(262-6211)
33 M 2501 59 PATH
Donley, James L., 841 N. Broadway, 67214
(236-6131)
46 M 1902 72 FP
Donnell, James M., 1131 S. Clifton, 67218
(685-4354)
28 M 1902 55 FP
*Doornbos, J. Fred, 929 N. St. Francis, 67214
(262-6131)
28 M 1902 57 R
Drake, Ralph L., 4422 E. 3rd, 67208
(682-8880)
99 M 4102 26 OO
Drevets, Curtis C., 3244 E. Douglas, 67208
(689-9178)
30 M 1902 56 IM
Durano, Antonio C., Jr., 959 N. Emporia, 67214
(263-7893)
29 M 74807 56 U
Dyck, Cora E., 702 Waverly, 67218
(686-0844)
00 F 1902 26 OO
Dyck, George, WSU Branch, K.U.M.C., 67219
(689-3528)
37 M 6201 64 P
Eckert, William G., 929 N. St. Francis, 67214
(262-6211)
26 M 3519 52 PATH
Edwards, Manis C., 3333 E. Central, 67208
(683-2661)
33 M 3005 58 OBG
Egelhof, Richard H., 841 N. Broadway, 67214
(263-6131)
45 M 1902 73 FP
Ellis, Harvey D., 6611 E. Central, 67206
(683-1022)
24 M 1902 55 GS
Elnen, Walter T., 460 N. Terrace Dr., 67208
(682-5671)
03 M 1643 32 GS
*Elneser, Rafael, 929 N. St. Francis, 67214
(262-6211)
39 M 84708 67 OBG
Emery, Frank A., 10 St. James Place, 67206
(683-0217)
05 M 2802 29 OO
Erken, Ronald V., 3101 E. 9th, 67214
(684-0201)
29 M 2834 56 P
Evans, Farris D., 821 N. Hillside, 67214
(684-6642)
05 M 1902 32 FP
Evans, Grant E., 3333 E. Central, 67208
(682-6556)
21 M 4901 46 OBG
Farha, George J., 905 N. Emporia, 67214
(263-0296)
27 M 2101 57 GS
Farha, S. Jim, 905 N. Emporia, 67214
(263-0296)
31 M 1001 57 TS
Fender, Thomas H., Jr., 3201 E. 2nd, 67208
(682-1886)
25 M 4812 54 NP
*Ferris, Bruce G., 825 N. Emporia, 67214
(262-3495)
43 M 1902 69 PS
Fieldman, E. Jay, 2322 E. Central, 67214
(263-6186)
26 M 3508 51 ANES
Finley, Dennis R., 1035 N. Emporia, 67214
(262-7429)
36 M 1606 62 ORS
Firkins, Richard T., 3244 E. Douglas, 67208
(689-9227)
31 M 1803 56 ENT
Fisher, James B., 3244 E. Douglas, 67208
(689-9477)
09 M 1902 36 IM

Fitzgerald, Edward J., 3600 E. Harry, 67218
(685-1111)
22 M 3006 50 R

*Fleming, Forney W., 3243 E. Murdock 67208
(683-1491)
43 M 4802 69 ORS

Flowers, Clell B., Jr., 855 N. Hillside, 67214
(682-1381)
22 M 1902 55 FP

Ford, Charles R., 1301 N. West St., 67203
(942-4279)
38 M 1902 63 OPH

*Forker, Alan D., 3333 E. Central, 67208
(684-0251)
38 M 1902 64 CD

Fowler, Robert J., 3244 E. Douglas, 67208
(689-9236)
37 M 2802 63 IM

Francis, Norton L., 5205 E. 21st, 67208
(684-2838)
10 M 3005 35 OTO

Fritz, George E., 550 N. Hillside, 67214
(685-2151)
18 M 2507 43 PATH

Fritzemeier, William H., 835 N. Hillside, 67214
(685-4395)
14 M 1902 41 D

Fromm, Arthur H., 315 N. Hillside, 67214
(685-2281)
37 M 1902 63 FP

Fulton, John K., 3333 E. Central, 67208
(686-0732)
18 M 5605 43 IM

*Galichia, Joseph P., 1035 N. Emporia, 67214
(263-3271)
42 M 1902 69 CD

Galvan, Alonso, 3333 E. Central, 67208
(684-0251)
38 M 64906 64 GE

Garfinkel, Lester S., 3333 E. Central, 67208
(684-5213)
35 M 2802 59 IM

George, Earl F., 406 E. Central, 67202
(265-6991)
35 M 1902 65 FP

George, M. Don, Wichita State University, KUMC Branch, 67219
(689-3144)
31 M 1001 56 P

Gessler, Donald J., 1122 N. Topeka, 67214
(265-2876)
41 M 1902 69 FP

Givner, David, 611 N. Hillside, 67214
(684-0501)
03 M 2301 29 IM

Goering, Robert C., 3600 E. Harry, 67218
(685-1111)
25 M 64901 56 PATH

*Gohil, Mahendra N., 3333 E. Central, 67208
(685-9289)
28 M 40733 66 DR

Goldberg, Herbert R., 400 N. Woodlawn, 67208
(685-4215)
33 M 3508 59 PD

*Gonzalez, Francisco, 1035 N. Emporia, 67218
(267-6944)
46 M 73706 70 IM

Gonzalez, Hiram P., 1035 N. Emporia, 67214
(262-2605)
20 M 64901 52 P

*Goodpasture, Hewitt C., WSU Branch, KUMC, 67219
(689-3529)
43 M 1902 69 IM

Gouldner, René M., 139 Courtleigh, 67218
(683-3282)
88 M 3501 18 OO

*Goyle, Krishan Kumar, 1035 N. Emporia, 67214
(265-2613)
34 M 49529 63 IM

*Goyle, Vimal, 929 N. St. Francis, 67218
(265-2613)
41 M 49529 65 OBG

Grauel, Charles W., 5141 E. 10th, 67208
(262-1127)
44 M 1902 70 ANES

Grauel, Truman W., 3333 E. Central, 67208
(682-6511)
41 M 5605 66 OBG

Graves, Jack W., 3244 E. Douglas, 67208
(689-9398)
17 M 1902 42 GS

Gray, C. Lucien, 4821 E. Central, 67208
(684-5171)
21 M 1902 45 ENT

Gray, H. Thomas, 3244 E. Douglas, 67208
(689-9152)
19 M 401 44 D

Gribble, Robert N., 925 N. St. Francis, 67211
(262-6211)
43 M 1902 69 R

Grillot, Floyd B., 814 S. Woodlawn, 67218
(684-0243)
18 M 1902 51 FP

*Grohs, Heinz K., 550 N. Hillside, 67214
(685-2151)
42 M 15407 66 PATH

*Grund, Frank M., 3244 E. Douglas, 67208
(689-9335)
47 M 1803 72 IM

Grushnys, Arnold A., 3244 E. Douglas, 67208
(689-9445)
19 M 40721 59 ANES

Gsell, George F., 3244 E. Douglas, 67208
(689-9316)
07 M 1601 33 OPH

Guthrie, Richard A., WSU Branch, KUMC, 67219
(689-3097)
35 M 2803 60 PD

Hagan, C. Thomas, 959 N. Emporia, 67214
(265-0789)
16 M 3006 42 IM

Hagan, Francis J., 1250 Maple, 67213
(262-1057)
13 M 3006 39 FP

Hale, Ralph, 847 S. Hillside, 67211
(684-0295)
18 M 1902 46 A
Halpin, Edward D., 1148 S. Hillside, 67211
(685-9229)
33 M 1902 62 OBG
Hanlon, James E., 550 N. Hillside, 67214
(685-2151)
48 M 3901 72 IM (Res)
Harms, Edwin M., 609 N. Broadway, 67214
(262-8476)
06 M 3901 34 OPH
Harris, Frank H., 1035 N. Emporia, 67214
(267-1221)
09 M 1001 39 NP
Harrison, Alvie B., 3333 E. Central, 67208
(682-2314)
99 M 1902 25 D
Hart, Dillis L., 5105 E. 21st, 67208
(684-2081)
36 M 3901 64 TS
Harvey, Rosemary B., 2004 Wellington Pl., 67203
(265-5674)
24 F 1902 49 PH
*Harvey, Thomas S., 2007 S. Hydraulic, 67211
(267-8247)
12 M 00801 41 PATH
Hattrup, Richard J., 1131 S. Clifton, 67218
(685-4354)
31 M 3006 57 FP
Hawley, Raymond G., 3600 E. Harry, 67218
(685-1111)
39 M 1902 65 PATH
Hayes, William L., 3333 E. Central, 67208
(684-0251)
28 M 1902 53 CD
Henning, Charles E., 315 N. Hillside, 67214
(682-3221)
37 M 1902 63 ORS
Hensley, Cline D., Jr., 3244 E. Douglas, 67208
(689-9272)
20 M 1902 44 ORS
Hered, John, 959 N. Emporia, 67214
(262-3613)
41 M 2802 67 NS
Hershorn, Simon E., 3333 E. Central, 67208
(685-1291)
22 M 1902 46 R
Hiebert, Abraham E., 1530 W. 13th, 67208
(264-6447)
94 M 2802 25 PS
Hinshaw, Alfred H., 6110 Oneida, 67208
(685-3974)
07 M 1902 33 OO
Hinshaw, Charles T., 357 N. Hillside, 67214
(682-8651)
99 M 4705 26 PD
Hiratzka, Tomiharu, 550 N. Hillside, 67214
(685-2151)
13 M 511 43 PATH
*Hizon, Ramon R., 929 N. St. Francis, 67214
(262-6211)
38 M 74801 62 R

Hodson, Hervey R., 1122 S. Clifton, 67218
(682-5012)
03 M 1606 31 GS
Holden, Raymond F., 3333 E. Central, 67208
(683-1932)
10 M 2802 33 IM
Holladay, Harmon M., 400 N. Woodlawn, 67208
(686-9184)
23 M 1902 52 ANES
Horbelt, Douglas V., 3333 E. Central, 67208
(682-6511)
47 M 4802 72 Res (OBG)
Howard, Donald O., 959 N. Emporia, 67214
(265-7241)
11 M 1902 38 OPH
Hubler, David L., 929 N. St. Francis, 67214
(262-6211)
47 M 4802 73 ORS (Res)
Huebert, Dean A., 5025 E. Kellogg, 67218
(682-1534)
22 M 1902 46 FP
Hull, Kenneth L., 1035 N. Emporia, 67214
(648-0201)
38 M 2301 69 P
Hultgren, Myron K., 855 N. Hillside, 67214
(685-1381)
41 M 1902 68 FP
Hume, Joseph W., 3333 E. Central, 67208
(682-6511)
38 M 1902 69 OBG
Hummer, Lloyd M., 3244 E. Douglas, 67208
(689-9323)
32 M 3901 57 IM
Hurst, Thomas C., 959 N. Emporia, 67214
(264-3543)
14 M 1902 38 PD
Hustead, Robert F., 2401 N. Pershing, 67220
(685-4389)
28 M 801 54 ANES
Hyndman, H. Harold, 7015 Rockwood Rd., 67206
(683-0420)
10 M 1902 36 OO
Hynes, Henry E., 1035 N. Emporia, 67214
(262-4467)
35 M 53902 58 HEM
Ibarra, J. Luis, 1035 N. Emporia, 67214
(262-2605)
20 M 64901 46 P
Jackson, Charles R., 1035 N. Emporia, 67214
(263-0812)
27 M 1606 53 GS
*James, Vernon L., WSU Branch, KUMC, 67219
(689-3097)
29 M 3601 55 PD
*Jazayerli, Nabil, 5105 E. 21st, 67208
(684-2081)
44 M 87501 70 CD
Jehan, Sayed S., 1801 E. 10th, 67214
(268-8251)
33 M 70403 59 P
Jenney, Charles B., 905 N. Emporia, 67214
(263-0296)
34 M 2834 61 GS

Johnson, Thomas E., 3333 E. Central, 67208
(685-1291)
41 M 1643 67 R
Jones, Clifford E., 2725 Boulevard Plaza, 67211
(684-6546)
22 M 1902 50 FP
*Kadison, Herbert I., 929 N. St. Francis, 67214
(262-6211)
44 M 1611 69 R
Kaelson, Paul A., Jr., 2012 W. 13th, 67203
(943-8671)
17 M 1902 50 FP
Kardatzke, E. Stanley, 1301 N. West, 67203
(943-9342)
39 M 1720 64 FP
Kardatzke, Jon K., 1301 N. West, 67203
(942-3271)
36 M 1720 62 FP
Kasha, Robert L., 1442 N. Oliver, 67208
(684-0181)
11 M 2834 38 GS
*Kassebaum, Kenneth G., 3420 E. Douglas, 67208
(685-6381)
34 M 1606 60 CHP
Kaufman, Eugene E., 3243 E. Murdock, 67208
(685-1491)
30 M 1902 56 ORS
Keene, George H., 5025 E. Kellogg, 67218
(682-1534)
20 M 1902 49 GS
Kelly, Robert H., 424 N. Woodlawn, 67208
(686-2193)
32 M 3806 59 PATH
Kenny, M. Gary, 841 N. Broadway, 67214
(263-6131)
36 M 1902 66 FP
Kendall, Tom E., 825 N. Emporia, 67214
(262-3495)
37 M 3901 62 PS
Kendrick, J. Gilleran, 3333 E. Central, 67208
(682-6511)
20 M 1902 46 OBG
Kennedy, Gerald T., 2916 E. Central, 67214
(684-5243)
35 M 1902 61 GE
Khicha, Gyanchand J., 905 N. Emporia, 67214
(263-0296)
37 M 49530 61 TS
*Khoury, George H., 3333 E. Central, 67208
(681-2021)
32 M 33002 55 PD
*Kim, Paik N., 1035 N. Emporia, 67214
(262-8454)
33 M 58302 58 ND
*Kimmich, Homer M., 427 N. Hillside, 67214
(686-6608)
27 M 4113 55 ENT
Kirk, Earl D., Jr., 345 N. Hillside, 67214
(685-1351)
34 M 1902 62 IM
Kiser, John L., 3243 E. Murdock, 67208
(685-6222)
37 M 2802 62 GS
Kiser, Willard J., 3243 E. Murdock, 67208
(685-6222)
05 M 4705 30 GS
Kitchen, Robert R., 3420 E. Douglas, 67208
(685-2355)
26 M 1902 52 CHP
*Klaus, Hanna, 929 N. St. Francis, 67214
(262-6211)
28 F 2002 50 OBG
Knapp, Leslie E., 302 S. Crestway, 67218
(682-5792)
96 M 1902 25 OO
Knapp, M. Robert, 1128 S. Clifton, 67218
(684-7251)
23 M 3519 47 ANES
Knappenberger, Roy C., 3244 E. Douglas, 67208
(689-9327)
16 M 1902 41 PD
Kneidel, Thomas W., 925 N. Emporia, 67214
(262-3476)
40 M 4101 66 ORS
Kouri, Sammy H., 3243 E. Murdock, 67208
(682-2911)
33 M 3901 57 GS
Krause, Roland L., 855 N. Hillside, 67214
(685-1381)
25 M 1902 53 IM
Kurth, C. Joseph, 925 N. Emporia, 67214
(263-6177)
10 M 3006 35 NP
Kutilek, Frank J., 8937 W. Central, 67212
(722-4258)
30 M 1902 57 FP
Laham, Alexander J., 2723 Boulevard Plaza, 67211
(683-4658)
20 M 1902 44 IM
Lance, John F., Jr., 3244 E. Douglas, 67208
(689-9438)
20 M 1902 45 ORS
Lawn, Raymond A., 715 N. Mission Rd., 67206
(683-8991)
09 M 2604 35 AM
Lazar, Harry, 611 N. Hillside, 67214
(684-0501)
08 M 1611 35 A
Lee, Edward S., Jr., 2002 E. 17th, 67214
(264-8273)
09 M 4707 37 FP
Lee, R. Rex, 6155 E. Harry, 67218
(685-2306)
29 M 3901 55 FP
Leisy, Jerald W., 3101 E. 9th, 67214
(684-1156)
42 M 1902 68 P
*Lies, James E., 3244 E. Douglas, 67208
(689-9111)
43 M 1902 69 IM
Lin, Joe J., 929 N. St. Francis, 67214
(262-6211)
42 M 24404 69 PATH

*Lin, Tung K., 2916 E. Central, 67214
(684-5243)
22 M 24226 47 CD
Lindley, Milton E., 657 S. Terrace Dr., 67218
(683-3406)
14 M 1902 50 OO
Linhardt, Ronald D., 3333 E. Central, 67208
(682-6511)
36 M 2803 64 OBG
Little, L. Gilbert, 502 Brown Bldg., 67202
(263-7614)
99 M 401 27 P
Lockhart, Joseph G., 5900 E. Central, 67208
(684-7239)
17 M 4113 43 PD
Loeffler, James A., 400 N. Woodlawn, 67208
(685-5375)
36 M 3841 63 A
Loewen, Henry H., 2142 W. 17th, 67203
(943-0993)
03 M 1902 35 OO
Loewen, William C., 1301 N. West, 67203
(943-3253)
41 M 1902 71 FP
Logan, Geoffrey G., 345 N. Hillside, 67214
(682-7539)
31 M 14303 56 OBG
Lovett, Paul A., 902 N. Hillside, 67214
(683-6683)
09 M 1902 45 ORS
Low, Harold L., 1148 S. Hillside, 67211
(684-2858)
18 M 1902 44 FP
Lueken, Lueke B., 3244 E. Douglas, 67208
(689-9234)
23 M 40723 52 OBG
Luellen, Thomas J., 3244 E. Douglas, 67208
(689-9244)
17 M 1902 41 IM
Luzzati, Enzo F., 929 N. St. Francis, 67214
(262-6211)
25 M 56119 50 R
MacLeod, Sherburne, 841 N. Broadway, 67214
(263-6131)
06 M 3901 33 FP
Madison, Ward N., Jr., 3600 E. Harry, 67218
(686-9432)
37 M 3601 62 PATH
*Mansour, Badie S., 400 N. Woodlawn, 67208
(686-7327)
45 M 33002 69 ANES
Marsh, Harry H., III, Wesley Med. Center, 67214
(685-2151)
30 M 6701 55 PATH
Marsh, Henry O., 925 N. Emporia, 67214
(262-3476)
18 M 1611 43 ORS
Martin, Glen E., 2322 E. Central, 67214
(263-6186)
20 M 1902 49 ANES
Marymont, Jesse H., Wesley Med. Center, 67214
(685-2151)
28 M 3515 54 PATH
Mastio, George J., 3243 E. Murdock, 67208
(684-5235)
25 M 1902 52 GS
Matassarin, Benjamin M., 2916 E. Central, 67214
(684-5243)
20 M 1902 45 IM
Matassarin, Frederick W., 734 N. Emporia, 67214
(265-2382)
15 M 1902 37 U
McClanahan, Ward A., 5105 E. 21st, 67208
(684-8211)
22 M 3005 48 ORS
McClellan, Ernest L., 400 N. Woodlawn, 67208
(686-9184)
38 M 4802 70 ANES
McCoy, Charles P., 3333 E. Central, 67208
(682-6511)
17 M 3006 42 OBG
McGuire, William F., 3333 E. Central, 67208
(683-5655)
17 M 4101 43 PD
McKee, Michael B., 3244 E. Douglas, 67208
(689-9314)
43 M 3520 69 CD
Meeker, Bruce P., II, 345 N. Hillside, 67214
(682-7539)
30 M 1902 58 OBG
Megaffin, Bernard B., 550 N. Hillside, 67214
(685-2151)
50 M 1902 75 IM
*Meller, Donald R., 130 S. Greenwich, 67207
(685-2858)
30 M 1643 56 IM
Menaker, Jerome S., 2703 E. Central, 67214
(685-1277)
16 M 1002 41 OBG
*Mendiones, Marlene L., 835 N. Hillside, 67214
(685-4395)
45 F 1611 70 D
Menehan, H. James, 3244 E. Douglas, 67208
(689-9404)
26 M 1902 53 PD
Menking, F. W. Manfred, 3244 E. Douglas, 67208
(689-9336)
34 M 40715 61 PD
Meredith, W. Tom, 1035 N. Emporia, 67214
(263-7285)
35 M 4812 61 IM
Merritt, Joe P., 2703 E. Central, 67214
(685-1277)
46 M 2802 71 OBG
Mershon, James C., 1035 N. Emporia, 67214
(263-3271)
37 M 1803 63 CD
Meulbroek, Harvey J., 3244 E. Douglas, 67208
(689-9156)
31 M 5605 56 A
Meyer, Warren E., 1144 S. Clifton, 67218
(684-5237)
27 M 1606 51 GS
Michelbach, Albert P., 2916 E. Central, 67214
(684-5243)
35 M 2101 61 CD

Miles, Anthony W., 1042 Lawrence Ct., 67206
(681-1324)
11 M 1720 34 OO

Miles, Robert W., 841 N. Broadway, 67214
(263-6131)
45 M 3901 72 FP

Miller, Don E., 4145 E. Kellogg, 67218
(682-0621)
20 M 2802 44 GS

Mills, Charles D., 1144 S. Water, 67213
(263-6824)
89 M 2002 14 FP

Mills, George Q., 1420 Brookfield, 67206
(681-1168)
48 M 3006 73 PATH (Res)

Mirza, Medo, 3333 E. Central, 67208
(686-6683)
38 M 40733 64 PDS

Moore, Dennis F., 1035 N. Emporia, 67214
(267-6944)
36 M 2101 62 HEM

*Morgan, Dick A., 400 N. Woodlawn, 67208
(686-9184)
43 M 3901 69 ANES

Morgan, James I., 3124 S. Seneca, 67217
(522-2266)
29 M 1606 53 FP

Morgan, Louis S., III, 8030 E. Kellogg, 67207
(683-3811)
22 M 3901 48 FP

Morrison, Richard L., 1148 S. Hillside, 67211
(683-6506)
42 M 1902 67 FP

Morrow, Thomas F., 3310 E. Douglas, 67208
(685-1443)
21 M 5606 46 P

Moseley, Jack E., 1120 S. Clifton, 67218
(682-4982)
25 M 3901 53 FP

Mosier, Stanley J., 3243 E. Murdock, 67208
(685-8231)
42 M 1902 68 FP

Moy, James T., 3028 E. 2nd, 67214
(682-1392)
14 M 4102 40 IM

Mueller, Vernette A., 1431 S. Bluffview, 67218
(684-3981)
17 M 2802 41 OBG

*Murphy, Barry L., 3333 E. Central, 67208
(684-0251)
45 M 1902 71 IM

Murphy, Duane A., 3243 E. Murdock, 67208
(685-1491)
32 M 1902 65 ORS

Murphy, Paul M., 3600 E. Harry, 67218
(685-1111)
28 M 3006 51 R

*Negron, Angel G., 3244 E. Douglas, 67208
(689-9369)
45 M 4201 70

Nelson, Gerald D., 825 N. Emporia, 67214
(262-3495)
34 M 1902 60 PS

*Nelson, Gust H., Jr., 3600 E. Harry, 67218
(685-1111)
23 M 1902 46 DR

Nelson, Russell A., 3333 E. Central, 67208
(682-5523)
18 M 1902 45 PD

*Nesmith, Leslie W., 3333 E. Central, 67208
(683-5611)
40 M 1902 66 OPH

Newby, James P., 905 N. Emporia, 67214
(263-0296)
34 M 1902 59 TS

Newsom, F. Carter, 3310 E. Douglas, 67208
(685-1443)
18 M 1201 43 P

Nixon, William A., 3333 E. Central, 67208
(683-6622)
16 M 1902 44 GS

*Norris, Rebecca M., 3244 E. Douglas, 67208
(689-9111)
42 F 1611 70 IM

Norris, Robert P., 3244 E. Douglas, 67208
(689-9232)
17 M 1902 43 IM

North, Doris G., 1148 S. Hillside, 67211
(684-5257)
16 F 1902 47 FP

North, Victor, 1148 S. Hillside, 67211
(684-5257)
18 M 1902 47 FP

Norton, Robert K., 3244 E. Douglas, 67208
(689-9235)
32 M 1001 57 PD

Nyberg, Fredrik F., 3333 E. Central, 67208
(682-6511)
22 M 2101 46 GYN

Ochsner, Bruce B., 1035 N. Emporia, 67214
(263-6274)
39 M 1902 65 OPH

O'Donnell, Leonard A., Jr., 8033 E. Douglas, 67207
(684-2835)
27 M 1902 55 CD

O'Donnell, Leonard A., 8033 E. Douglas, 67207
(684-2781)
03 M 5606 25 IM

Osborne, Conrad C., 855 N. Hillside, 67214
(685-1381)
38 M 1902 67 FP

Osio, Antonio L., 1125 S. Clifton, 67218
(685-2371)
41 M 26404 65 EM

Osoba, William G., 2525 W. 13th, 67203
(943-9391)
25 M 2802 51 FP

Owen, LaRue W., 1128 S. Clifton, 67218
(684-7251)
19 M 1902 50 ANES

Owen, Pere A., 1128 S. Clifton, 67218
(684-7251)
37 M 1902 64 ANES

Padgett, William L., 841 S. Hillside, 67211
(683-7503)
24 M 1902 51 FP

Page, Ruth, 1148 S. Hillside, 67211
(684-0255)
13 F 1902 43 IM

Palmer, David L., 911 N. Hillside, 67214
(686-7161)
37 M 1902 63 PATH

Parker, Harold L., 925 N. Emporia, 67214
(263-3765)
32 M 1902 67 FP

Parmley, Charles C., 5025 E. Kellogg, 67218
(682-1534)
18 M 1902 44 GS

*Pence, Charles D., 3244 E. Douglas, 67208
(689-9175)
42 M 1902 68 ORS

Pennington, Katherine, 3333 E. Central, 67208
(682-5432)
16 F 1902 43 PD

Peters, Dale W., 400 N. Woodlawn, 67208
(684-5217)
21 M 1902 45 P

*Petersen, Christine D., 3333 E. Central, 67208
(683-2681)
46 F 702 71 IM

Phipps, Jack G., 315 N. Hillside, 67214
(685-2263)
21 M 1902 53 FP

Pinsker, Jacob A., 1035 N. Emporia, 67214
(267-8259)
06 M 1902 35 IM

Podrebarac, Leonard F., 1035 N. Emporia, 67214
(263-3143)
24 M 3006 53 FP

Poling, Terry L., 6155 E. Harry, 67218
(685-2306)
36 M 1902 62 FP

Poole, Bernard T., 1035 N. Emporia, 67214
(264-2806)
37 M 53902 62 ORS

Porter, Garry L., 507 W. Volutsia, 67214
(686-7351)
35 M 1606 61 P

Powers, Kenneth D., 2703 E. Central, 67214
(685-1277)
23 M 1902 47 OBG

*Prieto, Luis E., 3244 E. Douglas, 67208
(689-9477)
37 M 26404 65 IM

Pullman, Norman K., 3007 E. Central, 67214
(686-7369)
21 M 3006 45 PS

Purinton, Lew W., 345 N. Hillside, 67214
(685-1301)
23 M 1902 48 IM

Purves, Robert K., 1431 Bluffview, 67218
(686-1991)
18 M 1606 43 GS

Putnam, Lyle B., 959 N. Emporia, 67214
(262-5037)
11 M 1902 36 FP

Radovanov, Radmila, 337 Rutland Rd., 67206
(283-1160)
34 F 95702 60 R

*Rahbar, Al A., 905 N. Emporia, 67214
(263-0296)
43 M 2501 69 TS

Rahman, Hafiz M. A., 3620 E. Sunnybrook, 67210
(685-0201)
35 M 70401 58 P

Rawcliffe, Robert A., Jr., 925 N. Emporia, 67214
(262-3476)
29 M 3501 55 ORS

Reals, William J., 3600 E. Harry, 67218
(686-9432)
20 M 3006 45 PATH

Reazin, Walter L., 855 N. Hillside, 67214
(685-1381)
30 M 1902 58 FP

Reed, A. J., 1520 S. Clifton, 67218
(685-2371)
40 M 3901 65 EM

Reed, D. Cramer, WSU Branch, KUMC, 67219
(689-3144)
15 M 2802 41 ADM

*Reed, David D., 3333 E. Central, 67208
(685-1291)
43 M 70401 58 P

Reeves, Bradford F., 3333 E. Central, 67208
(685-1291)
37 M 4812 62 R

Relihan, Donald A., 3333 E. Central, 67208
(684-5158)
27 M 1902 54 OPH

Rempel, John H., 3333 E. Central, 67208
(685-1812)
38 M 3901 62 PS

Rhoads, James P., 3244 E. Douglas, 67208
(689-9163)
34 M 3520 60 IM

Rhoden, Curtis H., 3333 E. Central, 67208
(684-0252)
33 M 1803 59 IM

Rhodes, Ivan E., 3333 E. Central, 67208
(685-1291)
25 M 3901 49 R

Rhodes, Lowell M., 315 N. Hillside, 67214
(685-1461)
25 M 1902 53 FP

Richardson, Stewart F., 3420 E. Douglas, 67208
(685-2321)
28 M 3005 54 P

Rieger, Ernest H., 3333 E. Central, 67208
(682-4591)
29 M 1902 46 TS

Riordan, Hugh D., 434 N. Oliver, 67208
(682-9241)
32 M 5605 57 P
Roberts, Daniel K., 3333 E. Central, 67208
(682-9141)
36 M 3005 61 OBG
Roberts, Louis S., 115 S. Rutan, 67218
(686-1104)
95 M 2834 20 OO
Robertson, Joseph K., 905 N. Emporia, 67214
(263-0296)
41 M 3901 66 GS
Robinson, G. Donald, 3333 E. Central, 67208
(686-6659)
28 M 1902 54 PD
Robinson, John E., 507 N. Volutsia, 67214
(686-7351)
32 M 6201 50 P
Robinson, Robert H., 3244 E. Douglas, 67208
(689-9445)
20 M 1902 53 ANES
Romalis, Brian E., 3420 E. Douglas, 67208
(682-5069)
39 M 6201 63 P
Rosenberg, Thomas F., 611 N. Hillside 67214
(684-0501)
41 M 1642 68 A
Russell, Philip W., 3244 E. Douglas, 67208
(689-9351)
22 M 1902 44 IM
Sabin, George M. Jr., 321 N. Topeka, 67202
(265-6601)
12 M 5002 39 ADM
Sadiq, Suleman, 1035 N. Emporia, 67214
(265-2613)
40 M 70401 63 TS
*Saeed, Mohammad A., 1124 S. Clifton, 67218
(685-2371)
42 M 70404 66 IM
*Salgado, Carlos R., 1035 N. Emporia, 67214
(265-2613)
33 M 13201 55 CD
Santoscoy, Gilbert S., 3244 E. Douglas, 67208
(689-9315)
38 M 4812 62 S
Schiltz, Frances H., 15 Willow Brook, 67207
(683-4978)
93 F 6701 23 IM
Schlachter, Ernest R., 406 E. Central, 67202
(265-0705)
24 M 1902 52 FP
Schlicher, John E., 3244 E. Douglas, 67208
(689-9346)
40 M 1803 66 D
Schlueter, John J., 3333 E. Central, 67208
(685-9289)
31 M 3841 56 R
Schopf, Clifton C., 925 N. Emporia, 67214
(262-3765)
29 M 1902 57 FP
Schwartz, V. Dean, 400 N. Woodlawn, 67208
(684-3881)
24 M 1902 48 FP
Scott, Vincent L., 3333 E. Central, 67208
(685-1265)
03 M 3806 29 PD
*Scott, William H., 3600 E. Harry, 67218
(685-1111)
41 M 4901 65 CD
Shafer, Preston J., 3333 E. Central, 67208
(682-6511)
20 M 3005 46 OBG
Shaw, James W., 150 S. Battin, 67218
(683-0531)
98 M 1601 27 OO
*Shaw, Richard C., 825 N. Emporia, 67214
(262-3495)
35 M 1902 61 PS
Shellito, John G., 3244 E. Douglas, 67208
(689-9221)
18 M 1606 43 TS
Shiflet, Albert W., 841 N. Broadway, 67214
(263-6131)
06 M 3901 33 OO
Shrader, Doyle A., 3333 E. Central, 67208
(682-4851)
16 M 1902 41 EENT
Siegel, Albert R., 3600 E. Harry, 67218
(685-1111)
22 M 1642 47 PM
Sifford, R. Lawrence, 959 N. Emporia, 67214
(265-0561)
25 M 1803 52 IM
Silverman, Mervyn F., 1900 E. 9th, 67214
(268-8391)
38 M 2101 64 GPM
*Skibba, Richard M., 3244 E. Douglas, 67208
(689-9477)
43 M 5606 70 IM
Sleeper, Carol A., 8 Stagecoach Rd., 67230
(689-9275)
33 F 1902 58 PATH
Sleeper, Donald C., 8 Stagecoach Rd., 67230
(733-0441)
32 M 1902 58 R
Smith, Alvin L., St. Francis Hospital, 67214
(262-6211)
28 M 5606 57 PATH
Smith, Erma A., 120 N. Kansas, 67214
(265-8055)
95 F 1601 33 OO
Smith, Willard J., Jr., 851 N. Hillside, 67214
(685-1371)
32 M 1611 57 U
Snyder, Gregg M., 3243 E. Murdock, 67208
(685-2377)
27 M 1803 54 NS
Solomon, Herman, 835 N. Hillside, 67214
(685-4395)
37 M 2701 62 D

Somers, Marvin M., 929 N. St. Francis, 67214
(262-6211)
23 M 1902 48 R
Spann, Richard W., 3333 E. Central, 67208
(684-0252)
40 M 1902 65 PUD
Stark, James R., 3244 E. Douglas, 67208
(689-9422)
20 M 1902 44 R
Stein, Paul S., 3243 E. Murdock, 67208
(685-2377)
40 M 3305 66 NS
Stewart, Jack T., 4815 E. Central, 67208
(683-8401)
30 M 2802 57 IM
*Stine, Gordon W., 2525 W. 13th, 67203
(943-9391)
47 M 2834 72 FP
Stofer, Bert E., Wesley Med. Center, 67214
(685-2151)
06 M 1902 33 PATH
Stolz, Elmer G., 425 E. Murdock, 67214
(265-6287)
17 M 3006 45 FP
*Stoskopf, Lawrence E., 3333 E. Central, 67208
(685-4389)
39 M 1902 67 ANES
Street, David E., 905 N. Emporia, 67214
(263-0296)
35 M 2101 61 GS
*Sullivan, Cornelius J. P., 1431 Bluffview Dr., 67218
(685-4851)
18 M 3509 43 OBG
Sullivan, Leonard L., 3244 E. Douglas, 67208
(689-9454)
35 M 1902 61 PD
Swisher, William C., 5025 E. Kellogg, 67218
(682-1534)
21 M 1902 47 OBG
Taylor, Richard J., 929 N. St. Francis, 67214
(262-1952)
21 M 3006 49 PATH
Thelen, Christine, 212 Bitting Bldg., 67202
(267-3936)
13 F 5104 37 OBG
Thompson, Daniel M., 118 E. 21st, 67214
(838-3381)
19 M 1902 50 FP
Throckmorton, Marion A., 1035 N. Emporia, 67214
(263-8365)
23 M 1902 47 FP
Tihen, Edward N., 3244 E. Douglas, 67208
(689-9481)
24 M 1606 48 IM
Tihen, Henry N., 1227 N. River Blvd., 67203
(262-1002)
96 M 1601 19 OO
Tiller, George R., 5101 E. Kellogg, 67218
(684-5255)
41 M 1902 67 AM
Tilton, Frank M., 3244 E. Douglas, 67208
(689-9137)
33 M 2002 59 N
Tinker, Robert C., 1126 S. Clifton, 67218
(682-7578)
31 M 2834 57 ORS
Tinterow, Maurice M., 3333 E. Central, 67208
(685-4389)
17 M 4802 41 ANES
Tippin, Ernest E., Jr., 959 N. Emporia, 67214
(265-5256)
24 M 1902 50 OTO
Tocker, Alfred M., 1035 N. Emporia, 67214
(265-2613)
15 M 4802 40 TS
Tocker, Lilia Rodriguez, 1035 N. Emporia, 67214
(265-2613)
21 F 27501 49 CD
Tonn, Gerhart R., 855 N. Hillside, 67214
(685-1381)
16 M 1902 44 FP
Tracy, Terry A., 3333 E. Central, 67208
(686-7301)
35 M 2803 61 OBG
Trees, Donald P., 1148 S. Hillside, 67211
(684-7082)
14 M 4101 39 IM
Tretbar, Harvey A., 3333 E. Central, 67208
(684-0251)
25 M 1902 52 IM
Uhlig, Paul J., 3244 E. Douglas, 67208
(689-9191)
28 M 1902 57 PD
*VanDerVliet, Stephen K., 3244 E. Douglas, 67208
(689-9316)
42 M 1606 68 OPH
VinZant, Larry E., 1431 Bluffview, 67218
(682-6532)
10 M 1902 40 GS
Vorhees, Victor J., 3243 E. Murdock, 67208
(685-8231)
36 M 1902 68 FP
Voth, Douglas W., WSU Branch, KUMC, 67219
(689-3193)
34 M 1902 59 IM
*Wadud, Abdul, 120 N. Oliver, 67214
(683-9021)
35 M 70409 60 P
Wallace, Robert W., 1128 S. Clifton, 67218
(684-7251)
28 M 3006 53 ANES
Warren, John W., Jr., 3244 E. Douglas, 67208
(689-9239)
15 M 2501 39 U
Warren, Lloyd P., 5205 E. 21st, 67208
(683-7223)
11 M 1902 36 OPH
Warren, Wirt A., 352 N. Broadway, 67202
(267-5031)
09 M 2802 33 GER

Weaver, Jack D., 959 N. Emporia, 67214
(265-7241)
16 M 2802 42 OPH

Weaver, J. Robert, 959 N. Emporia, 67214
(265-5731)
21 M 1902 48 FP

Weber, Hugo P., Jr., 1035 N. Emporia, 67214
(263-7285)
40 M 702 66 IM

Wedin, Paul H., 3600 E. Harry, 67218
(685-1111)
08 M 1902 38 ADM

Weippert, Edward J., 1301 N. West, 67203
(943-3271)
44 M 1902 70 FP

Welch, Lauren K., 3243 E. Murdock, 67208
(685-2377)
35 M 1902 61 N

*Welch, Martin H., 5500 E. Kellogg, 67218
(685-2221)
36 M 5605 61 IM

*Wells, James D., 929 N. St. Francis, 67214
(262-6211)

Wellshear, Charles C., 3101 E. 9th, 67214
(684-0201)
30 M 4706 58 P

Weninger, John H., 1148 S. Hillside, 67211
(682-6523)
32 M 3005 62 FP

West, Ray A., 101 S. Byron, 67209
(684-1130)
92 M 1601 19 OO

West, William T., 3244 E. Douglas, 67208
(689-9234)
24 M 1902 49 OBG

Whallon, Jacob T., 445 N. Dellrose, 67208
(683-3407)
14 M 1720 41 IM

Wheeler, Pickney R., 2208 W. 13th, 67203
(943-2118)
18 M 3901 56 FP

White, Charles M., 3244 E. Douglas, 67208
(689-9422)
15 M 3005 41 R

Wilchins, Lawrence J., 9235 W. Central, 67212
(722-1129)
24 M 3607 47 GS

Wilder, Lowell W., 3333 E. Central, 67208
(684-5158)
35 M 4109 62 OPH

Williams, Charles L., 3244 E. Douglas, 67208
(689-9269)
16 M 2834 43 IM

Winchell, H. H. Forsyth, 808 N. Emporia, 67214
(265-1684)
34 M 3545 58 TR

Wisdom, Jay K., 1148 S. Hillside, 67211
(684-0271)
12 M 1902 42 FP

Wisner, Harry J., Jr., 3244 E. Douglas, 67208
(689-9169)
17 M 3005 43 RHU

*Witter, Robert L., V.A. Hosp., 67218
(685-2221)
25 M 2604 55 FP

Wittman, Albert F., 2323 N. Woodlawn, Apt. 211, 67220
(682-1612)
10 M 2834 38 OO

Wolfe, Frederick, 1035 N. Emporia, 67214
(264-2371)
36 M 3508 66 RHU

Wolfe, Ted W., 3333 E. Central, 67208
(685-1291)
36 M 3901 61 R

Wood, Gary B., 1148 S. Hillside, 67211
(684-2131)
21 M 2802 45 IM

Woodard, Lawrence E., 3244 E. Douglas, 67208
(689-9234)
15 M 1606 41 OBG

Woodhouse, Charles L., 959 N. Emporia, 67214
(265-8821)
10 M 1902 34 OTO

Wray, A. James, 120 E. 21st, 67214
(838-4912)
20 M 1902 49 FP

*Youngberg, Dean I., V.A. Hosp., 67218
(685-2221)
46 M 1902 72 IM

Zarnow, Hilary, 925 N. Emporia, 67214
(262-6211)
45 M 1611 69 R

Zeller, Orville A., 2322 E. Central, 67214
(263-6186)
18 M 2002 51 ANES

Zimmerman, Kenneth D., 3801 S. Oliver, 67210
(687-3925)
29 M 3901 55 OM

Zongker, Philip E., 3244 E. Douglas, 67208
(689-9422)
43 M 1902 70 R

WILSON—913
(Central Kansas Society)

Dlabal, Frank A., 67490
(658-2400)
07 M 1902 45 FP

WINCHESTER—913
(Jefferson County Society)

Huston, Francis W., 66097
(774-2150)
06 M 1601 34 FP

Keys, Robert C., Sr., P.O. Box 202, 66097
(774-4570)
97 M 1902 27 OO

WINFIELD—316
(Cowley County Society)

Brown, Harwin J., 1317 Wheat Road, 67156
(221-3200)
09 M 5605 35 ANES

Carro, Francisco A., Snyder Clinic, 67156
(221-3200)
23 M 27501 48 FP

Cudnik, Daniel B., 5 Terrace Dr., 67156
(221-3200)
42 M 5606 68 GS

Daehnke, Sigurd S., Snyder Clinic, 67156
(221-3200)
26 M 3005 60 FP

Depoe, Joseph H., 324 State Bank Bldg., 67156
(221-4980)
31 M 1902 57 FP

Hoyle, Winthrop E., Snyder Clinic, 67156
(221-3200)
22 M 702 47 OPH

Kaufman, Leland R., 221 W. 8th, 67156
(221-3350)
33 M 1902 61 FP

Kaul, Anand N., 5 Sharon Acres, 67156
(221-3200)
39 M 49530 61 IM

MacKillop, Daniel, Jr., 4 Fleetwood Dr., 67156
(221-3200)
11 M 2407 38 R

Miller, Franklin R., 1317 Wheat Road, 67156
(221-3200)
02 M 2401 27 IM

Oh, Shi-Han, Snyder Clinic, 67156
(221-3200)
35 M 58302 60 OBG

Snyder, C. John, Snyder Clinic, 67156
(221-3200)
38 M 2401 64 GS

Snyder, Howard E., Snyder Clinic, 67156
(221-3200)
03 M 4102 27 GS, TS

Vaidyanathan, P. C., 1211 E. 5th, 67156
(221-6100)
30 F 49504 59 GS

Wells, Alvin Y., 1707 E. 10th, 67156
(221-0009)
97 M 1902 37 OO

Wells, Bruce W., 221 W. 8th, 67156
(221-3350)
39 M 1902 64 IM

Wells, Max W., 221 W. 8th, 67156
(221-3350)
12 M 1902 36 FP

White, R. Burnley, 117 W. 9th, 67156
(221-2950)
24 M 1902 52 FP

Winblad, James N., 1211 E. 5th St., 67156
(221-6100)
27 M 1902 53 GS

YATES CENTER—316
(Allen County Society)

Atkin, John D., 111 E. Madison, 66783
(625-2312)
35 M 3901 61 FP

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118th Annual Session

THE KANSAS MEDICAL SOCIETY

May 1-4, 1977

Broadview Hotel, Wichita

CONTINUING MEDICAL EDUCATION

The 1976 Kansas Legislature enacted a law requiring continuing medical education as a requisite to relicensure in Kansas. HB-2723 provides that, "From and after July 1, 1978, the Kansas State Board of Healing Arts shall require every licensee to submit with the renewal application evidence of satisfactory completion of a program of continuing education required by the Board." The following is a description of the CME requirements established by the Board, and an explanation of how to comply with the requirements and exemption from the requirements.

As a basic requirement, the Board adopted the CME requirements of the Kansas Medical Society, which is the attainment of the American Medical Association "Physician's Recognition Award." The basic criteria for the PRA is 150 hours of educational experience over a three-year period. The educational activities are described in six separate categories. Below is a brief description of each category and the maximum number of hours that can be obtained in each category:

	Credit Hours Limit
Category 1—CME activities with accredited sponsorship (60 hours required)	no limit
Category 2—CME activities with non-accredited sponsorship	45 hrs.
Category 3—Medical teaching	45 hrs.
Category 4—Papers, publications, books, exhibits	40 hrs.
Category 5—Non-supervised individual CME activities	45 hrs.
Category 6—Other meritorious learning experiences	45 hrs.

Completion of AMA-PRA satisfies the requirement established by the Board. Because relicensure is on a yearly basis, and the PRA is on a three-year basis, a physician need only have a valid PRA in effect to be in compliance with the requirements of the Board.

Additionally, completion of the CME certification programs of any of the following organizations also constitutes compliance with the requirements of the Board:

1. American Academy of Family Physicians;
2. American College of Obstetricians and Gynecologists;
3. College of American Pathologists/American Society of Clinical Pathologists;
4. Any other specialty organization CME certification programs subsequently recognized by the AMA.

If you satisfy the requirements of any of the above organizations, you need *not* apply for the "Physician's Recognition Award." Each specialty organization will notify the Kansas Medical Society of your certification, and the Kansas Medical Society will in turn notify the Board that you have satisfactorily completed your requirements.

If you do not qualify for the specialty organization programs listed above, you must apply directly to the AMA for the "Physician's Recognition Award." Upon receipt of the award, the AMA will notify the Board that you have completed the requirement.

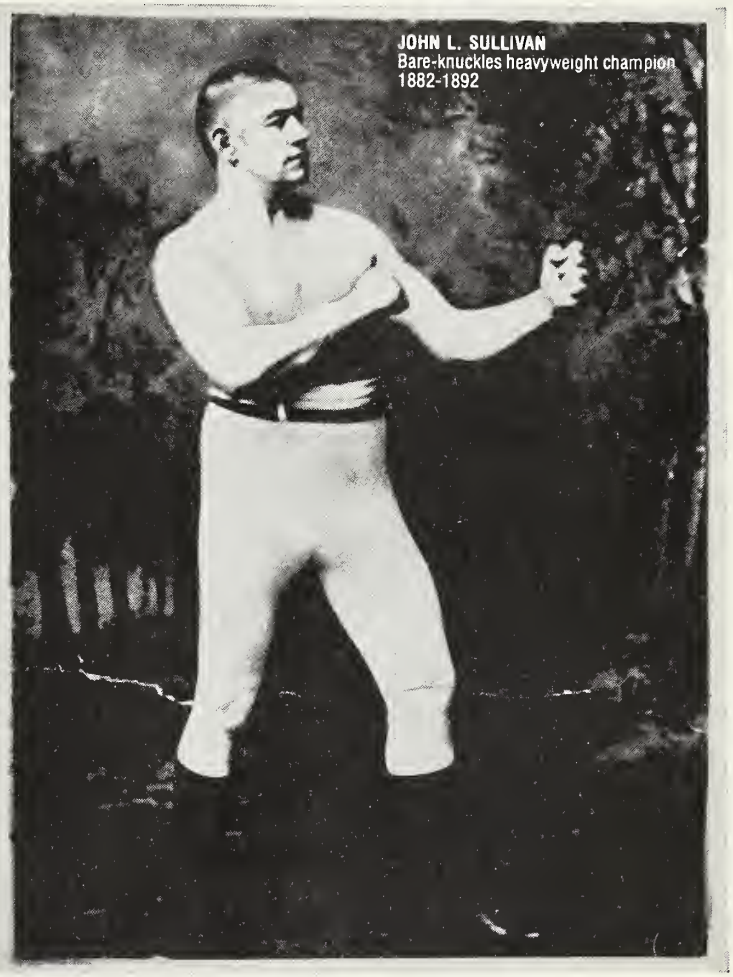
Questions concerning CME requirement can be directed to the Board or the Kansas Medical Society. The addresses of each are as follows:

The Kansas State Board of Healing Arts
503 Kansas Avenue
Topeka, KS 66603
Telephone: (913) 296-7413

The Kansas Medical Society
1300 Topeka Boulevard
Topeka, KS 66612
Telephone: (913) 235-2383

Each individual physician is responsible for recording his own hours of attendance at postgraduate courses. The credit hours should be recorded on the AMA Physician's Recognition Award application form when 150 hours are accumulated. The application form should then be mailed directly to the AMA, 535 North Dearborn, Chicago, IL 60610.

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NEOSPORIN® Ointment
(polymyxin B-bacitracin-neomycin)
is a famous fighter, too.

Provides overlapping, broad-spectrum antibacterial action to help combat infection caused by common susceptible pathogens (including staph and strep).

Each gram contains: Aerosporin® brand Polymyxin B Sulfate 5,000 units; zinc bacitracin 400 units; neomycin sulfate 5 mg (equivalent to 3.5 mg neomycin base); special white petrolatum qs in tubes of 1 oz and 1/2 oz and 1/32 oz (approx.) foil packets.

INDICATIONS: Therapeutically (as an adjunct to systemic therapy when indicated) for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection.

Prophylactically, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing. **CONTRAINDICATIONS:** Not for use in the eyes or external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of the components. **WARNING:** Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended. **PRECAUTIONS:** As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs. **ADVERSE REACTIONS:** Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.



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WHEN DIET ALONE FAILS TO LOWER CHOLESTEROL



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Choloxin®

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AN IMPORTANT NOTE:
It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

A Proven Cholesterol-Lowering Adjunct to Diet.

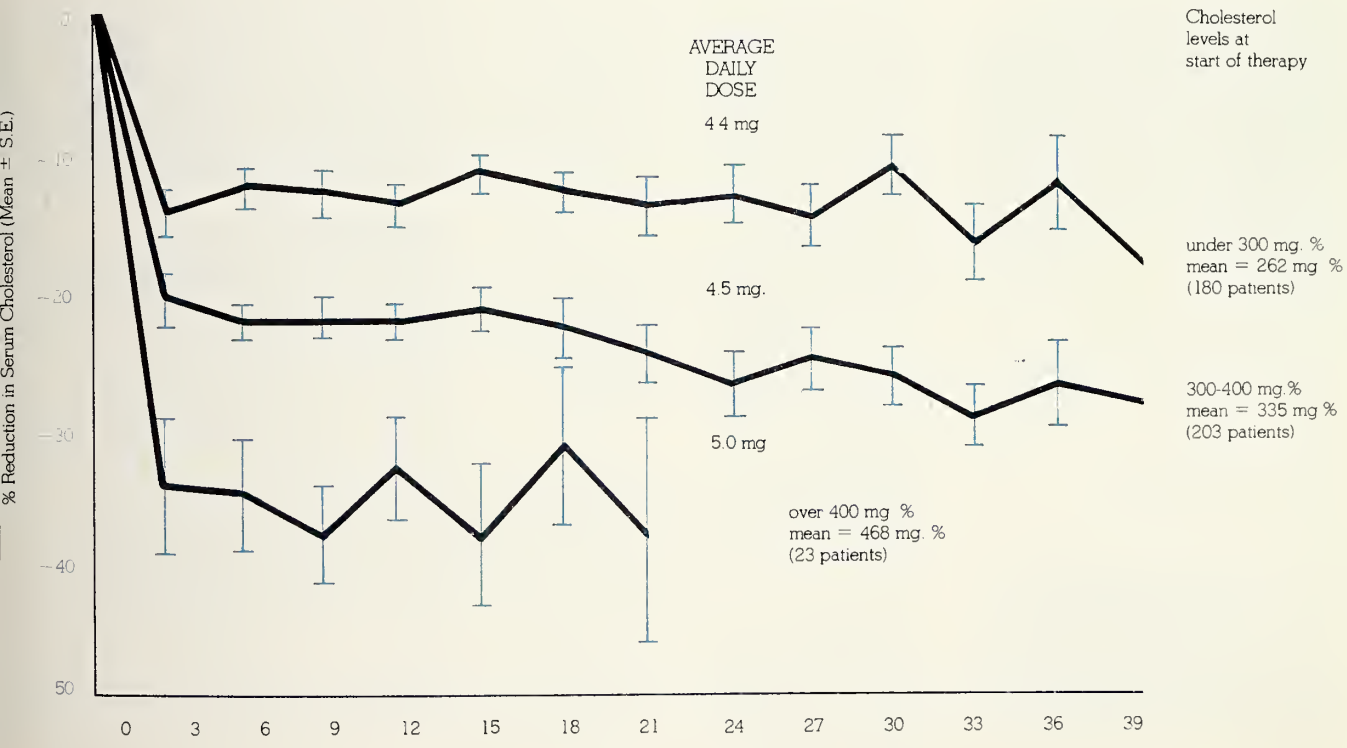
An effective agent for low density lipoproteins in Euthyroid, Non-Cardiac Patients.

CHOLOXIN® (Sodium Dextrothyroxine) is the convenient and practical way to manage the hard-to-manage patient who doesn't always follow the diet regimen that you've outlined.

Convenient once-a-day dosage encourages patient cooperation, and it's economical for long-term therapy.

CHOLOXIN (Sodium Dextrothyroxine) is a thyroid analogue which effectively lowers elevated serum cholesterol 15 to 35% (see chart below) in low density lipoproteins.

CHOLOXIN (Sodium Dextrothyroxine) has undergone ten years of clinical trials and seven years of practice. The clinical trials consisted of 337 clinical studies involving over 3,000 hypercholesterolemic non-cardiac patients. It is among the most thoroughly evaluated drugs ever presented to physicians.



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NOTE:
See following page for full prescribing information.

Choloxin
(Sodium Dextrothyroxine)

Effectively Lowers Elevated Cholesterol With Convenient Once-A-Day Dosage

Four strengths... 1, 2, 4, and 6 mg are available making the scored tablet regimen a flexible dosage system. And, for most patients, CHOLOXIN tablets offer once-a-day dosage.

CHOLOXIN® (sodium dextrothyroxine) Single-Tablet-A-Day Dosage Schedules

See prescribing information in package insert reproduced below

	Starting Dosage	Increased Monthly by	Usual Maintenance	Maximal Recommende
Adult Hypercholesterolemic	1 0-2 0 mg	1 0-2 0 mg	4 0-8 0 mg	4 0-8 0 mg
Pediatric Hypercholesterolemic	0 05 mg /kg body weight	0 05 mg /kg	0 1 mg /kg body weight	4 0 mg
Hypothyroid Cardiac	0 5-1 0 mg	1 0 mg	4 0 mg	4 0 mg

Description
CHOLOXIN (sodium dextrothyroxine) is the sodium salt of the dextrorotatory isomer of thyroxine. It is chemically described as D-3 5 3' 5' tetraiodothyronine sodium salt.

Actions
The predominant effect of CHOLOXIN (sodium dextrothyroxine) is the reduction of serum cholesterol levels in hyperlipidemic patients. Beta lipoprotein and triglyceride fractions may also be reduced from previously elevated levels.

Most of the available evidence indicates that CHOLOXIN stimulates the liver to increase catabolism and excretion of cholesterol and its degradation products via the biliary route into the feces. Cholesterol synthesis is not inhibited and abnormal metabolic end-products do not accumulate in the blood.

Indications
This is not an innocuous drug. Strict attention should be paid to the indications and contraindications.

CHOLOXIN (sodium dextrothyroxine) is an antilipidemic agent used as an adjunct to diet and other measures for the reduction of elevated serum cholesterol (low density lipoproteins) in euthyroid patients with no known evidence of organic heart disease.

The drug is also indicated in the treatment of hypothyroidism in patients with cardiac disease who cannot tolerate other types of thyroid medication. **Before prescribing, note the following. Results from a randomized clinical study have indicated a possible adverse effect when CHOLOXIN (sodium dextrothyroxine) is administered to a patient receiving a digitalis preparation. There may be an additive effect. This additive effect may possibly stimulate the myocardium excessively in patients with significant myocardial impairment. CHOLOXIN (sodium dextrothyroxine) dosage should not exceed 4 mg per day when the patient is receiving a digitalis preparation concomitantly. Careful monitoring of the total effect of both drugs is important.**

It has not been established whether the drug-induced lowering of serum cholesterol or lipid levels has a detrimental, beneficial, or no effect on the morbidity or mortality due to atherosclerosis or coronary heart disease. Several years will be required before current investigations will yield an answer to this question.

Contraindications
The administration of CHOLOXIN (sodium dextrothyroxine) to euthyroid patients with one or more of the following conditions is contraindicated:

1. Known organic heart disease, including angina pectoris, history of myocardial infarction, cardiac arrhythmia or tachycardia either active or in patients with demonstrated propensity for arrhythmias, rheumatic heart disease, history of congestive heart failure, and decompensated or borderline compensated cardiac status.
2. Hypertensive states (other than mild labile systolic hypertension).
3. Advanced liver or kidney disease.
4. Pregnancy.
5. Nursing mothers.
6. History of iodism.

Warnings
CHOLOXIN (sodium dextrothyroxine) may potentiate the effects of anticoagulants on prothrombin time. Reductions of anticoagulant dosage by as much as 30% have been required in some patients. Consequently, the dosage of anticoagulants should be reduced by one-third upon initiation of CHOLOXIN (sodium dextrothyroxine) therapy and the dosage subsequently readjusted on the basis of prothrombin time. The prothrombin time of patients receiving anticoagulant therapy concomitantly with CHOLOXIN (sodium dextrothyroxine) therapy should be observed as frequently as necessary, but at least weekly, during the first few weeks of treatment.

In the surgical patient, it is wise to consider withdrawal of the drug two weeks prior to surgery if the use of anticoagulants during surgery is contemplated.

When CHOLOXIN (sodium dextrothyroxine) is used as thyroid replacement therapy in hypothyroid patients with concomitant coronary artery disease (especially those with a history of angina pectoris or myocardial infarction) or other cardiac disease, treatment should be initiated with care. Special consideration of the dosage schedule of CHOLOXIN (sodium dextrothyroxine) is required. This drug may increase the oxygen requirements of the myocardium, especially at high dosage levels. Treated subjects with coronary artery disease must be seen at frequent intervals. If aggravation of angina or increased myocardial ischemia, cardiac failure, or clinically significant arrhythmia develops during the treatment of hypothyroid patients, the dosage should be reduced or the drug discontinued.

Special consideration must be given to the dosage of other thyroid medications used concomitantly with CHOLOXIN (sodium dextrothyroxine). As with all thyroactive drugs, hypothyroid patients are more sensitive to a given dose of CHOLOXIN (sodium dextrothyroxine) than euthyroid patients.

Epinephrine injection in patients with coronary artery disease may precipitate an episode of coronary insufficiency. This condition may be enhanced in patients receiving thyroid analogues. These phenomena should be kept in mind when catecholamine injections are required in sodium dextrothyroxine-treated patients with coronary artery disease.

Since the possibility of precipitating cardiac arrhythmias during surgery may be greater in patients treated with thyroid hormones, it may be wise to discontinue CHOLOXIN (sodium dextrothyroxine) in euthyroid patients at least two weeks prior to an elective operation. During emergency surgery in euthyroid patients, and in surgery in hypothyroid patients in whom it may not be advisable or possible to withdraw therapy, the patients should be carefully observed.

There are reports that sodium dextrothyroxine in diabetic patients is capable of increasing blood sugar levels with a resultant increase in requirements of insulin or oral hypoglycemic agents. Special attention should be paid to parameters necessary for good control of the diabetic state in dextrothyroxine-treated subjects and to dosage requirements of insulin or other antidiabetic drugs. If sodium dextrothyroxine is later withdrawn from patients who required an increase of insulin (or oral hypoglycemic agents) dosage during its administration, the dosage of antidiabetic drugs should be reduced and adjusted to maintain good control of the diabetic state.

When either or both impaired liver or kidney function are present, the advantages of CHOLOXIN (sodium dextrothyroxine) therapy must be weighed against the possibility of deleterious results.

Usage in Women of Childbearing Age
Women of childbearing age with familial hypercholesterolemia or hyperlipemia should not be deprived of the use of this drug; it can be given to those patients exercising strict birth control procedures. Since pregnancy may occur despite the use of birth control procedures, administration of CHOLOXIN (sodium dextrothyroxine) to women of this age group should be undertaken only after weighing the possible risk to the fetus against the possible benefits to the mother. Teratogenic studies in two animal species have resulted in no abnormalities in the offspring.

Precautions
It is expected that patients on dextrothyroxine therapy will show greatly increased serum protein-bound iodine levels. These increased serum PBI values are evidence of absorption and transport of the drug, and should NOT be interpreted as evidence of hypermetabolism; similarly they may not be used for titrating the effective dose of CHOLOXIN (sodium dextrothyroxine). PBI values in the range of 10 to 25 mcg%, in treated patients are common.

If signs or symptoms of iodism develop during CHOLOXIN (sodium dextrothyroxine) therapy, the drug should be discontinued.

A few children with familial hypercholesterolemia have been treated with CHOLOXIN (sodium dextrothyroxine) for periods of one year or longer with no adverse effects on growth. However it is recommended that the drug be continued in patients in this age group only if a significant serum cholesterol lowering effect is observed.

Adverse Reactions
The side effects attributed to dextrothyroxine therapy are for the most part due to increased metabolism and may be minimized by following the recommended dosage schedule. Adverse effects are least commonly seen in euthyroid patients with no signs or symptoms of organic heart disease; the incidence of adverse effects is increased in hypothyroid patients, and is highest in those patients with organic heart disease superimposed on the hypothyroid state.

In the absence of known organic heart disease, some cardiac changes may be precipitated during sodium dextrothyroxine therapy. In addition to angina pectoris, arrhythmia consisting of extrasystoles, ectopic beats, or supraventricular tachycardia, ECG evidence of ischemic myocardial changes and increase in heart size have been observed. Myocardial infarctions, both fatal and non-fatal, have occurred, but these are not unexpected in untreated patients in the age groups studied. It is not known whether any of these infarcts were drug related.

Changes in clinical status that may be related to the metabolic action of the drug include the development of insomnia, nervousness, palpitations, tremors, loss of weight, hot flag, sweating, flushing, hyperthermia, hair loss, diuresis, and menstrual irregularities. Gastrointestinal complaints during therapy have included dyspepsia, nausea and vomiting, constipation, diarrhea, and decrease in appetite.

Other side effects reported to be associated with CHOLOXIN (sodium dextrothyroxine) therapy include the development of headache, changes in libido (increase or decrease), hoarseness, tinnitus, dizziness, peripheral edema, malaise, tiredness, visual disturbances, psychic changes, paresthesia, muscle pain, and various bizarre subjective complaints. Skin rashes, including a few which appeared to be due to iodism, and itching have been attributed to dextrothyroxine by some investigators. Gallstones have been discovered in occasional dextrothyroxine-treated patients and cholestatic jaundice has occurred in one patient although its relationship to CHOLOXIN (sodium dextrothyroxine) therapy was not established.

In several instances, the previously existing conditions of the patient appeared to continue or progress during the administration of CHOLOXIN (sodium dextrothyroxine), a worsening of peripheral vascular disease, sensorium, exophthalmos, and retinopathy have been reported.

CHOLOXIN (sodium dextrothyroxine) potentiates the effects of anticoagulants, such as warfarin or Dicumarol, on prothrombin time, thus indicating a decrease in the dosage requirements of the anticoagulants. On the other hand, dosage requirements of antidiabetic drugs have been reported to be increased during dextrothyroxine therapy (see WARNINGS section).

Dosage and Administration
For **adult** euthyroid hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is 4 to 8 mg per day. The initial daily dose should be 1 to 2 mg to be increased in 1 to 2 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, if that dosage level is indicated to effect the desired lowering of serum cholesterol.

When used as partial or complete substitution therapy for levothyroxine in hypothyroid patients with cardiac disease who cannot tolerate other types of thyroid medication, the initial daily dose should be 1 mg to be increased in 1 mg increments at intervals of not less than one month to a maximum level of 4 to 8 mg daily, preferably the lower dosage. The maximum in patients receiving digitalis therapy is 4 mg.

For **pediatric** hypercholesterolemic patients, the recommended maintenance dose of CHOLOXIN (sodium dextrothyroxine) is approximately 0 1 mg (100 mcg) per kilogram. The initial daily dosage should be approximately 0 05 mg (50 mcg) per kilogram to be increased in up to 0 05 mg (50 mcg) per kilogram increments at monthly intervals. The recommended maximal dose is 4 mg daily, if that dosage is indicated to effect the desired lowering of serum cholesterol.

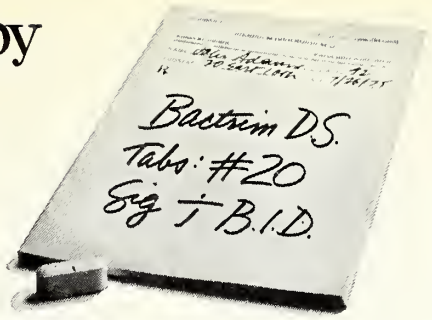
If new signs or symptoms of cardiac disease develop during the treatment period, the drug should be withdrawn.

How Supplied
CHOLOXIN (sodium dextrothyroxine) is supplied in prescription packages of scored 1, 2, 4 and 6 mg tablets.

March 1975

FLINT LABORATORIES
DIVISION OF TRAVENOL LABORATORIES, INC
Deerfield, Illinois 60015

10-day Bactrim therapy outperforms 10-day ampicillin therapy.



In a multicenter, double-blind study of patients with chronic or frequently recurrent urinary tract infection, Bactrim 10-day therapy outperformed ampicillin 10-day therapy by 27.2%, when comparing patients who maintained clear cultures for eight weeks. Criterion for "clear culture" was 1000 or fewer organisms/ml of urine.

While adverse reactions noted in this study were mild (*e.g.*, vomiting, nausea, rash), more serious reactions can occur with these drugs. See manufacturer's product information for complete listing. Maintain adequate fluid intake; perform frequent CBC's and urinalyses with microscopic examination.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Bactrim™ DS
(160 mg trimethoprim and 800 mg sulfamethoxazole)
Double Strength tablets
Just 1 tablet B.I.D.

Bactrim™

(80 mg trimethoprim and 400 mg sulfamethoxazole)
2 tablets B.I.D.

For chronic or frequently recurrent cystitis and pyelonephritis due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections evidenced by persistent bacteriuria (symptomatic or asymptomatic), frequently recurrent infections (relapse or reinfection), or infections associated with urinary tract complications, such as obstruction. Primarily for cystitis, pyelonephritis or pyelitis due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii.*

NOTE: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in these urinary tract infections. The recommended quantitative disc susceptibility method (*Federal Register,* 37:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. **Data are insufficient to recommend use in infants and children under 12.**

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12. Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) every 24 hours
Below 15	Use not recommended

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole — bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10.

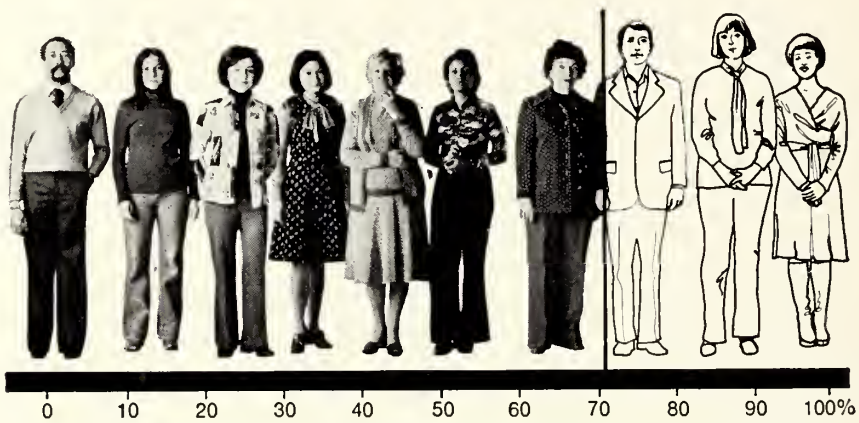
Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored — bottles of 16 oz (1 pint).

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

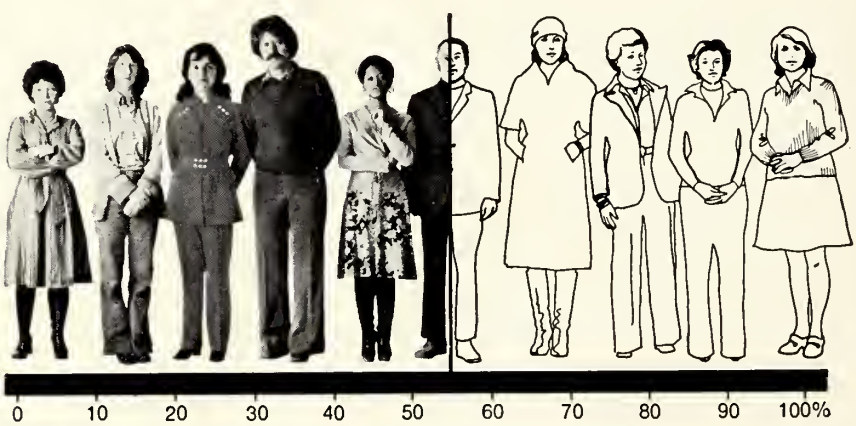
In a multicenter study of patients with chronic or frequently recurrent urinary tra

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Bactrim was 27.2%* more effective than ampicillin in keeping patients infection-free for 8 weeks



Bactrim–70.5% of 78 patients infection-free at 8 weeks.



ampicillin–55.4% of 74 patients infection-free at 8 weeks.

*This percentage is arrived at by the statistical method of dividing the difference between Bactrim and ampicillin results (15.1%) by the percent of ampicillin results (55.4%).

†Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey 07110

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole)

Double Strength tablets Just 1 tablet B.I.D.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Please see summary of product information on preceding page.

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KUMC—Wichita Branch

THE Journal OF THE Kansas Medical Society

SEPTEMBER
1976

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

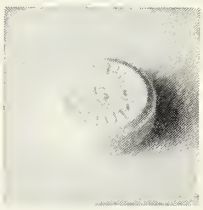
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequ and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdr may be associated with temporary increase in frequency and/or severity o seizures. Advise against simultaneous gestion of alcohol and other CNS depr sants. Withdrawal symptoms (similar those with barbiturates and alcohol) h occurred following abrupt discontinu (convulsions, tremor, abdominal and cle cramps, vomiting and sweating). addiction-prone individuals under ca

respond to one

According to her major
nptoms, she is a psychoneu-
ic patient with severe
iety. But according to the
cription she gives of her
lings, part of the problem
y sound like depression.
is is because her problem,
ough primarily one of ex-
sive anxiety, is often accom-
nied by depressive symptom-
logy. Valium (diazepam)
provide relief for both—as
excessive anxiety is re-
ed, the depressive symp-
ns associated with it are also
en relieved.

There are other advan-
es in using Valium for the
nagement of psychoneu-
ic anxiety with secondary
pressive symptoms: the
chotherapeutic effect of
lium is pronounced and
id. This means that im-
vement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) IV

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

veillance because of their predisposi-
to habituation and dependence. In
gnancy, lactation or women of child-
ring age, weigh potential benefit
inst possible hazard.

cautions: If combined with other psy-
tropics or anticonvulsants, consider
efully pharmacology of agents em-
yed; drugs such as phenothiazines,
cotics, barbiturates, MAO inhibitors
other antidepressants may potentiate
action. Usual precautions indicated in
ients severely depressed, or with latent
ression, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Nutley, New Jersey 07110

Volume LXXVII, Number 9—September, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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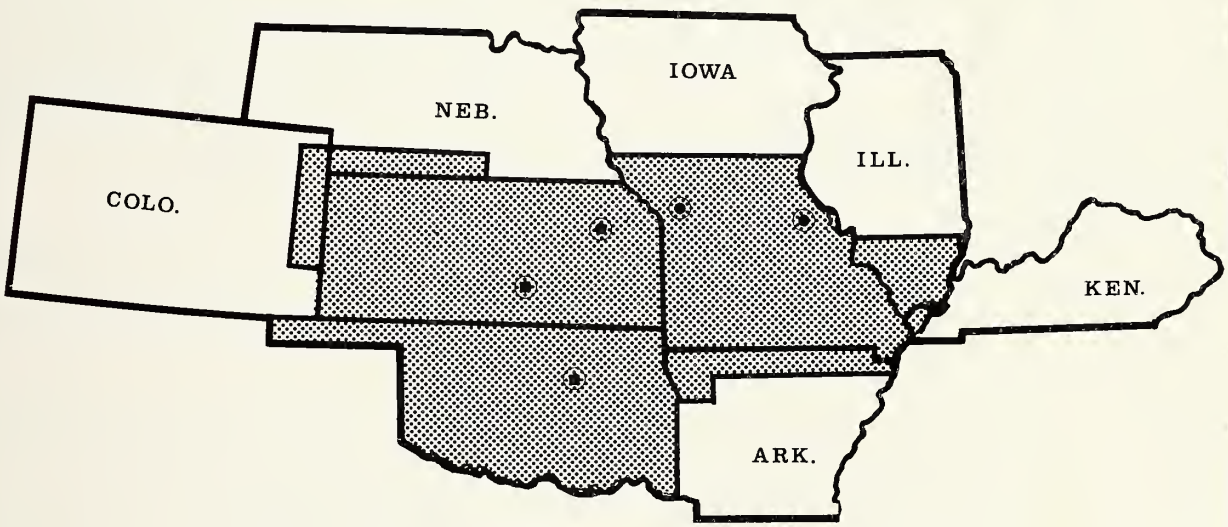
Managing Editor and Advertising Manager: Val Braun, 1300 Topeka Avenue, Topeka 66612.

Business Manager: Jeremy Slaughter, 1300 Topeka Avenue, Topeka 66612.

The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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Play It Again Sam

Mr. Sam Wheeler is the Regional Consultant for PSRO at the Public Health Service in Kansas City. Mr. Wheeler has been of great assistance to the KFMC over the past two years in our efforts to implement PSRO in Kansas. There have been occasions, however, when Mr. Wheeler has been the bearer of mediocre decisions from above, *i.e.*, the Bureau of Quality Assurance (BQA) in Rockville, Maryland. One such occasion was last month.

In July, the KFMC submitted to BQA its final plan for designation as the conditional PSRO for Kansas. We were informed at that time that the KFMC would be granted conditional status on October 1, 1976. Mr. Wheeler's phone call, however, burst that bubble.

It seems there has been a reorganization at BQA which culminated in the dismissal of several people, including the person who was charged with reviewing our plan. The reorganization is good, but the timing was less than desirable. BQA has been a very top-heavy, centralized bureau. The purpose of the reorganization is to decentralize BQA and give more authority in the decision making process to the regional offices. We applaud this decision because it will give local PSROs a direct line of communication with those who will make many of the pertinent decisions affecting local PSRO operations.

The timing of this move, however, has necessitated another holding pattern for the KFMC due to the fact that BQA action on our plan will not take place in time to meet the deadline for the October 1 funding cycle.

We have, therefore, been instructed to apply for a six-month extension of our PSRO planning contract, which will run through March 31, 1977. There is a possibility that the KFMC will receive a conditional PSRO contract during the funding cycle that begins January 1, 1977, but that will depend on many variables that have not yet been fully determined.

The situation reminds me of my oldest boy's attempts

(Continued on page 369)

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high-contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.

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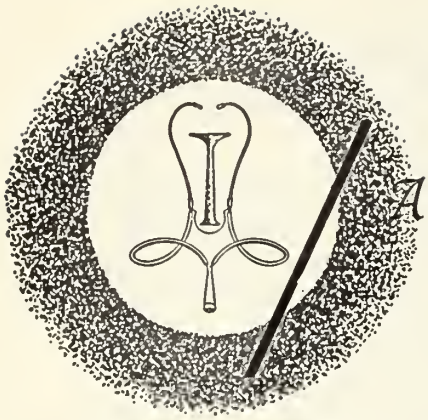
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Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. *Notice of the session is posted in advance to allow the physician time to make preparations.*

SEPTEMBER

Sept. 13-17 — Cardiology for the Consultant, Crown Center Hotel, Kansas City, MO. INFO: A. L. Bingham, University of Missouri-Kansas City School of Medicine, 2220 Holmes Street, Kansas City, MO 64108.

Sept. 20-22 — American Cancer Society Conference on Cancer Research and Clinical Investigation, the Chase-Park Plaza, St. Louis. INFO: S. L. Arje, M.D., American Cancer Society, 777 Third Avenue, New York 10017.

Sept. 20-23 — American Hospital Association, Statler Hilton, Dallas. INFO: J. A. McMahon, 840 N. Lake Shore Drive, Chicago 60611.

Sept. 21-26 — Colorado Medical Society, the Broadmoor, Colorado Springs. INFO: D. G. Derry, 1601 E. 19th Ave., Denver 80218.

Sept. 24-25 — The Long Weekend for Dermatology/Gynecology, Alameda Plaza Hotel, Kansas City, MO. INFO: A. L. Bingham, University of Missouri-Kansas City School of Medicine, 2220 Holmes Street, Kansas City, MO 64108.

OCTOBER

Oct. 4-15 — Family Practice Review, University of Nebraska Medical Center, Omaha. INFO: University of Nebraska Medical Center, Public Information Dept., 42nd and Dewey Ave., Omaha 68105.

Oct. 5-9 — American Group Practice Association, Americana, Bal Harbour, FL. INFO: J. B. Cobb, 20 S. Quaker Lane, PO Box 949, Alexandria, VA 22313.

Oct. 6 — "Health Care 2000"—Kansas Health Careers Council annual meeting, Howard Johnson Motel, Topeka. INFO: Dr. George Bridges, Health Occupations, 120 E. 10th, Topeka, KS 66612.

Oct. 6-9 — American Medical Writers Association, Pontchartrain, Detroit. INFO: Ms L. Sablack, 9650 Rockville Pike, Rockville, MD 20014.

Oct. 7-10 — American School Health Association, Marriott, New Orleans. INFO: S. J. Jerrick, PO Box 708, ASHA National Office Bldg., Kent, OH 44240.

Oct. 9-13 — American Society of Anesthesiologists, San Francisco Hilton, San Francisco. INFO: J. W. Andes, 515 Busse Hwy, Park Ridge, IL 60068.

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Oct. 11-15 American College of Surgeons Clinical Congress, Chicago. INFO: American College of Surgeons, 55 East Erie Street, Chicago 60611.

Oct. 13-15 Kansas State Nurses' Association Convention, Great Bend, KS. INFO: F. J. Nelson, Kansas State Nurses Association, 820 Quincy, Topeka 66612.

Oct. 16-17 American College of International Physicians, Inc. Annual Convention, Chicago. INFO: A. B. Donesa, M.D., College Offices, Suite 12, 3030 Lake Ave., Fort Wayne, IN 46805.

Oct. 16-21 American Academy of Pediatrics, Palmer House, Chicago. INFO: R. G. Frazier, M.D., 1801 Hinman Ave., Evanston, IL 60204.

Oct. 17-18 American College of Preventive Medicine, Miami Beach, FL. INFO: W. Bentley, 801 Old Lancaster Rd., Bryn Mawr, PA 19010.

Oct. 21-23 Association of American Physicians and Surgeons, Camelback Inn, Scottsdale, AZ. INFO: F. W. Woolley, 2111 Enco Dr., Suite N-515, Oak Brook, IL 60521.

Oct. 24-28 American College of Chest Physicians, Atlanta. INFO: A. Soffer, M.D., 911 Busse Hwy., Park Ridge, IL 60068.

Oct. 25 44th Annual Postgraduate Assembly, Omaha Mid-West Clinical Society, Hilton Hotel, Omaha. INFO: Omaha Mid-West Clinical Society, 540 Medical Arts Bldg., Omaha NE 68102.

Oct. 29-31 Refresher Course in Gastrointestinal Radiology, Texas Health Science Center, Fairmont Hotel, Dallas. INFO: R. N. Berk, M.D., Department of Radiology, Parkland Memorial Hospital, 5201 Harry Hines Boulevard, Dallas 75235.

NOVEMBER

Nov. 1-6 Laryngology and Bronchoescophagology, Eye and Ear Infirmary, Abraham Lincoln School of Medicine, University of Illinois. INFO: Dept. of Otolaryngology, Eye and Ear Infirmary, 1855 W. Taylor Street, Chicago 60612.

Nov. 4-5 Western Conference on Criminal and Civil Problems and the Kansas Coroners Association. 14 hrs. credit Category I. Wichita. INFO: W. G. Eckert, M.D., Box 8282, Wichita, KS 67208.

Nov. 6-10 American Medical Women's Association, Philadelphia Sheraton, Philadelphia. INFO: L. Loesel, 1740 Broadway, New York 10019.

Nov. 10-13 Association of Planned Parenthood Physicians, Regency Hyatt, Miami. INFO: L. S. Nayagum, 810 7th Ave., New York 10019.

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MAC Drug Program

The Maximum Allowable Cost (MAC) drug program went into effect toward the end of August with little visible activity. First signs of life will probably appear in the late fall when MAC's advisory committee will meet to consider the initial prescription drugs for the program.

Court decisions in the various counter suits, including that of the American Medical Association, are not expected anywhere in the near future.

The three-year-old brainchild of former HEW Secretary Caspar Weinberger, MAC sets price ceilings on certain widely used drugs in an effort to discourage prescription of brand-name products. Physicians would have to stipulate that brand-name drugs for Medicare-Medicaid beneficiaries are medically necessary on the prescription in order to prevent the pharmacist from filling the order with the lower cost generic drug. In states with anti-substitution laws, patients would have to make up the difference in price if a brand-name is ordered.

MAC had been scheduled to go into effect four months ago, but retail druggists joined drug manufacturers and the AMA in protest, causing the four-months postponement.

In a letter to HEW Secretary David Mathews, the Pharmaceutical Manufacturers Association said the original postponement was to resolve "confusion and opposition" surrounding MAC. "It is our observation that such hopes have not been realized, and in fact, the situation is even more chaotic today," said PMA President C. Joseph Stetler.

The AMA and PMA have a consolidated suit against MAC pending in Chicago District Court. Other litigation has been launched by the National Association of Retail Druggists (NARD), the Private Medical Care Foundation, Inc., and Congress of County Medical Societies. Citing these, along with a petition filed with HEW on July 27 by the American Pharmaceutical Association (APHA), and the "continuing concern," and "growing dissatisfaction" of many individuals and organizations, Stetler said, "there is every reason to further delay . . . the MAC program."

The MAC proposal has many controversial aspects, not the least of which is the fact that it was an administrative decision without any legislative backing in the language of the Medicare and Medicaid laws. Thus, one of the criticisms is that it represents "government by regulation" and violates the Medicare law's prohibition against interference in the practice of Medicare.

Weinberger claimed MAC would save the government $60 million a year, but another former HEW Secretary, Robert Finch, disputed the claim. Finch, now a private citizen in California, said the bureaucratic cost-of-running the program would offset any possible savings. In a letter to the *Wall Street Journal* last year, Finch also argued that bioequivalency cannot be demonstrated at present. The MAC regulations pose "the key question of whether the patient receives the exact prescription the doctor ordered," he wrote.

Physicians for the most part will be affected with Medicaid patients, since there is no substantial outpatient benefit for Medicare drugs.

In addition to the control program, HEW will send all physicians a list of most frequently prescribed drugs along with the prices community pharmacies pay for them.

No federal sanctions are provided for physicians who decide to write out the "medically necessary" prescription message.

Before a Maximum Allowable Cost can be established for drugs, the Food and Drug Administration must first indicate that there are no bioequivalence problems among its several brands. The HEW Pharmaceutical Reimbursement Board would then propose a MAC at a level equal to the lowest cost at which the drug is generally available to providers. Before the MAC can be established officially it must be reviewed by a non-governmental advisory committee and published in the *Federal Register* for comment.

The regulations establish both the Pharmaceutical Reimbursement Board and the 5-member outside advisory group.

HEW said about one-fourth of commonly prescribed drugs are available from multiple sources. However, the number for which bioequivalence problems can be ruled out is smaller.

The reimbursement that a pharmacist receives for drugs he provides Medicare and Medicaid patients will be based on an estimate of his cost of buying the drug plus a dispensing fee, or on his usual charge to the general public, whichever is the smaller. Program agencies such as the state Medicaid program would make the estimates according to price information supplied on a regular basis by HEW.

Druggists protested a HEW wholesale price list designed to guide state agencies which the druggists said contained "out-of-date" low prices.

John Ball, M.D., Assistant to the Director of FDA's Office of Quality Standards, recently said it may be as long as six months before the first small group of drugs has gone through the process for declaring them ready for MAC.

Month in Washington

Regulation Process

Under new procedures announced by the Health, Education and Welfare Secretary, HEW must now consult broad segments of the public before it prepares controversial regulations mandated by Congress or for compelling administrative need.

The issuance of regulations by HEW over the past few years has become a subject of considerable dispute, with court challenges filed by the American Medical Association and others contending that the government had gone beyond the intent of Congress in carrying out the law.

"For far too long HEW has gone to the public in these situations only to tell them what it intends to do. From now on our first step will be to ask the people of this country what they think we should do," HEW Secretary David Mathews said.

The Secretary said he believes strongly that the regulation process is HEW's "most intrustive channel into people's lives."

HEW will notify the public through town hall-type meetings, advertisements, public service announcements, news releases, professional and service organizations, mailings, the *Federal Register,* and HEW's 10 regional offices.

Following are the steps to be taken by HEW in drafting important regulations:

Publication of a notice of intent to propose regulations which would place issues and options before the public and invites comment.

If the Department has a preference, it will be stated clearly at the outset—an innovation.

Publication in the *Federal Register* of a notice of proposed rule-making—a proposed regulation—which takes into account the requirements of the law, Congressional intent, the public's views, and the professional expertise of HEW.

The public normally will have 45 days to comment following publication of both HEW's intent to regulate and its proposed regulations. Each of these documents will include the name of a person in HEW who can be contacted for clarification or further information.

HEW also said it plans training sessions for department regulation writers so that regulations are written in clear, concise English.

Clinical Laboratories

The AMA has urged the House Commerce Committee to make major changes in legislation to bring the nation's clinical laboratories under tighter federal control.

One of the most controversial provisions of the Clinical Laboratory Improvement Act (CLIA) as approved by the Commerce Health Subcommittee prohibits Medicare reimbursement for labs under any rental or lease which involves a percentage arrangement. "We particularly object to this section because it was never discussed or considered during public hearings," the AMA said in a legislative alert to constituent bodies.

"This section has far reaching contractual considerations involving physicians and hospitals," the AMA said. "In the name of openness and fairness the matters covered in this section should be dealt with separately and we ask that this section be deleted."

This disputed provision, which also covers Medicaid and Maternal and Child Health reimbursement, is similar to a key section of the Talmadge bill in the Senate.

The AMA singled out two other provisions for special concern in the CLIA bill.

One allows an exemption for a laboratory in a physician's office but only where physicians actually perform all tests and procedures in connection with the treatment of their patients. "With such a restriction, laboratories operated in physicians' offices would be forced to close down," said the AMA. "Existing law exempts laboratories operated by physicians where tests are done personally or through employees solely as an adjunct to the treatment of their own patients. This exemption should continue."

The other provision deals with revocation of a license for a number of activities, one of which is finding that the owner or operator of a laboratory has engaged in a billing practice which creates a discriminatory effect between patients reimbursed, in whole or in part, under programs receiving federal funds and patients who are not so reimbursed. "This provision apparently seeks a uniformity of fees for services by the laboratory," said the AMA. "This provision could in fact require a raising of fees under federal programs and thus would increase federal program costs. Furthermore, any provision that would state that the prohibition would be against a charge higher for a federal program than for a non-federal program would still be objectionable.

"A dangerous precedent is established where the licensing authority (the HEW Secretary) can revoke a license based on fees charged to programs administered by him."

Health Manpower

House and Senate conferees have still not met to

reach agreement on the crucial Health Manpower Bill.

The major issue to be resolved is federal controls over residencies. The House Manpower Bill approved last year was stripped of a residency control feature on the floor of the House. A rigid and sweeping Senate control plan over allocation of residencies was watered down substantially on the floor of the Senate but the final Senate bill requires medical schools to set aside minimum percentages of residency programs for "primary care" slots.

Also important are the "payback" provisions for medical students. In this respect, the House bill is more stringent than the Senate bill. The House would require, starting in 1985, that medical students pay back, either in money or service in shortage areas, that portion of the individual student's yearly medical education subsidized by the federal government in the form of capitation subsidies to the medical schools. As present, this runs about $2,000 a year.

The comparable Senate provision requires medical schools starting in 1978 to assure that 35 per cent of their first-year places are available for students who, prior to admission, have submitted applications for National Health Service Corps scholarships and have agreed to accept such scholarships.

Both bills contain provisions designed to reduce the inflow of foreign medical graduates.

The major new thrust in the two bills, in addition to the extension of capitation aid to medical schools, is to produce more physicians in the "primary care" category and to get more physicians into shortage areas.

The Administration has had strong reservations about provisions in both bills, but as they stand now it appeared unlikely the legislation would encounter a Presidential veto.

FDA

Food and Drug Commissioner Alexander Schmidt, M.D., believes Congress must shoulder much of the blame for the controversy swirling around his embattled agency. Dr. Schmidt, who is leaving the FDA in December to become Vice Chancellor for Health Services at the University of Illinois, made clear in an interview with *AM NEWS* that he believes the persistent critics of FDA on Capitol Hill, in the press and television, and among consumer groups are unfair and damage the agency's morale and efficiency.

He told *AM NEWS* the FDA has been driven into a "conservative" position in approving new drugs because of the pressures from Congressmen who believe the agency isn't tough enough with drug companies. Congress never calls a hearing when a drug is rejected, but always calls one when a drug is approved, he said, implying that a climate of fear of Congressional retaliation has pervaded FDA.

Dr Schmidt also said he thinks the medical profession could be more supportive of FDA's position and verbally less critical.

Legislation

September is now the appointed month for the Congress to make final deposition of a great deal of unfinished health legislation. The August doldrums saw little visible Congressional action on health business. But behind closed doors much work was performed by members and staff in committee and conference meetings. However, the final shape and form of legislation such as manpower, health maintenance organizations, clinical laboratories, Indian health, variable incentive pay, and emergency medical services will not be known until the last hectic days of the 94th Congress as it rushes to adjourn and go home for the autumnal election campaigns.

Toxic Substances

The House has passed the so-called toxic substances act which gives the Environmental Protection Agency new powers to prevent hazardous chemicals from being marketed. A provision was added on the House floor to ban within two years the manufacture of PolyChlorinated Biphenyls (PCBs). The chemical has been found in fish in the Great Lakes and the Hudson River and traces discovered in humans. PCBs are used in electrical equipment and enter the food chain through waste dispersal in waterways.

Physicians' Fees

The House Ways and Means Subcommittee on Health had postponed hearings on issues involved in increasing physicians' fees and possible revisions in the present reasonable charge reimbursement system used in the Medicare program.

The Subcommittee will hear testimony on:

Factors in the present system which influence physicians to accept assignment or to direct bill; advantages and disadvantages to requiring physicians to accept assignment in any case; factors contributing to geographic variations in physicians' reasonable charges, including differences in urban and rural charges; implications of the differences in charges between primary care physicians and specialists, and the effect of such fee differences on the selection of certain specialties by physicians; feasibility and desirability of reimbursing physicians on a fee schedule basis and the factors which would be used to adjust the schedules to reflect the variation in physicians' cost of practice; the role of relative value scales in determining physician fees; results of ex-

perimental reimbursement programs; and comments on legislation already pending which would amend Medicare reimbursement of physicians.

The Subcommittee also will examine the issues involved in the payment of physicians in teaching hospitals under Medicare. However, Congress will not be able to act on such matters this year.

Kansas Foundation

(Continued from page 360)

to clout a home run at the local school yard. His intentions are good and he's properly equipped with a big league bat, shoes and cap, but he's up against a pitcher of unknown quality—his dad.—*J.E.A.*

Fall Session

of the

KMS HOUSE OF DELEGATES

Sunday, November 7, 1976—10:00 A. M.

Holiday Inn
23rd & Iowa
Lawrence, Kansas

ONE-DAY BUSINESS MEETING TO CONSIDER ITEMS RELATING TO LEGISLATION AND OTHERS THAT CANNOT BE DELAYED UNTIL MAY. IT IS HOPED ALL COMPONENT SOCIETIES WILL BE REPRESENTED BY THEIR FULL COMPLEMENT OF DELEGATES.

All members of the Society are invited.

AMERICAN COLLEGE OF RADIOLOGY COMMISSION ON CANCER INTERIM STATEMENT ON BREAST CANCER DIAGNOSIS

Mammography has proven to be the most effective diagnostic tool so far developed for the detection of breast cancer at an early stage before it spreads to regional lymph nodes. This early detection increases the probability of cure. Mammography at appropriate intervals in asymptomatic women over age 35 promises to reduce significantly the number of deaths from breast cancer. Since there is now no definitive scientific evidence with regard to: (1) optimal age for the initial mammogram; (2) frequency of examination; or (3) data on possible long term radiation risk, this statement is being issued as a summary of current informed opinion.

In women who have symptoms or physical findings suggestive of possible breast cancer, medical decisions must be individualized to fit the patient's needs. Under these circumstances, mammography is an integral part of the evaluation of the patient.

Recognizing that definitive data are not yet available that allow the establishment of firm criteria that define a protocol for the screening for breast cancer in asymptomatic women, the ACR recommends the following:

1. All women should have annual physical examination of the breasts and be taught breast self-examination.
2. For asymptomatic women the first, or baseline, mammographic examination should be performed between the ages of 35 and 40.
3. Subsequent mammographic examinations should be performed at one- to three-year intervals unless more frequent examination is medically warranted.
4. After age 50, annual or other regular interval examinations, including mammography, should be performed.
5. Although the carcinogenic effects of radiation at current levels of exposure are probably immeasurably small, continuing attempts to reduce exposure should be made. However, image quality must be preserved for accurate diagnosis to insure the best risk/benefit (cure) ratio.
6. Each radiologist should assure the periodic monitoring of his equipment and procedures to determine that the patient's exposure is being maintained at the lowest feasible level.

The protocal currently being followed by the NCI/ACS sponsored "Breast Cancer Detection Demonstration Projects" should be pursued, so that the data are as complete and accurate as possible to facilitate meaningful conclusions. Followup of the patients must be carried out for a number of years to ensure collection and evaluation of the data. Theoretical concerns of possible radiation-induced breast cancer do not warrant change in the current protocol of the "Breast Cancer Detection Demonstration Projects." Estimates of risk that include a radiation carcinogenic effect are of dubious validity because of the lack of objective scientific evidence. Research must be continued and encouraged to:

1. improve methods for measurement of low level radiation;
2. further reduce the radiation dose in mammography consistent with good image quality;
3. determine the most appropriate age at which to begin screening for different risk groups;
4. define women of high risk;
5. define those mammographic findings that dictate reexamination at a shorter interval;
6. establish the appropriate intervals for reexamination;
7. collect evidence of the benefits and risks of mammography.

PLEASE NOTE: If you wish to talk to a diagnostic radiologist about this position paper, please call or write to: Gerald D. Dodd, M.D., M. D. Anderson Hospital, 6723 Bertner Dr., Houston, TX 77025. (713) 792-2700. Richard G. Lester, M.D., Herman Hospital, University of Texas Medical School, Department of Radiology, Houston, TX 77025. (713) 797-3664.

Journal on Microfilm

Microfilmed copies of current as well as all back issues of the JOURNAL are available through University Microfilm Services, a subsidiary of Xerox Corporation. The 35 mm film fits all standard viewers and provides the JOURNAL in miniature at a savings on binding and storage costs. Write for information or send orders direct to University Microfilm Services, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

M. Zia Anwar, M.D.
520 Sixth Avenue
Leavenworth, KS 66048

Tyrone D. Artz, M.D.
3244 E. Douglas
Wichita, KS 67208

David Brake, M.D.
3333 E. Central
Suite 214
Wichita, KS 67208

Nathan Goldstein, III, M.D.
One Gateway Center, #114
Kansas City, KS 66101

Sang W. Ha, M.D.
1613 W. 4th
Coffeyville, KS 67337

Jorge J. Herrera, M.D.
417 E. 6th
Topeka, KS 66607

James T. Lowman, M.D.
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Gino Tutera, M.D.
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Harry H. White, M.D.
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Normund Wong, M.D.
Menninger Foundation
Box 829
Topeka, KS 66601

Philip E. Zongker, M.D.
3244 E. Douglas
Wichita, KS 67208

PATHOLOGIST

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The new hospital is located in a growing western Kansas community, serving a five-county region. For further information contact:

Raymond Rouleau, Administrator
Dodge City Regional Hospital
P. O. Box 1478
Dodge City, KS 67801
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Woman's Auxiliary

Dear Friends,

Eighteen KMWA members registered at the AMA Woman's Auxiliary convention in Dallas. All attended the seminars, business sessions, and social events. Delegates were: Mmes. Jackie Burnett, Evelyn Huff, Anita Yoder, and Dot Meyer. Others: Mmes. Mary Yulich, Betty Moore, Caryl Bichlmeier, Kathy Wedel, Jean Crouch, Meldon Laury, Irma Schaefer, Carol Scott, Virginia Purinton, Eleanor Conard, Betty Glover, Sue Burkett, Lela Mae Young; and I was the presidential delegate.

The ladies who were traveling alone enjoyed a delightful get-together dinner Saturday evening at the Spaghetti Warehouse. Sunday morning we attended a general session conducted by our new Auxiliary president, Mrs. Norman Gardner, and received briefings from the new national chairmen. Then we attended AMA-ERF, legislative, project bank, membership, and treasurers' seminars. Mrs. Laury attended a retirement planning seminar on Texas oil and land investments.

Members toured the Convention Center exhibits, and I was fascinated with the hypertension exhibit sponsored by NIH (and the mailing address includes 120/80). Materials were ordered for our summer conference, fall swing, and workshops. Others attended the opening of the House of Delegates. Sunday evening, the KMS and Auxiliary members enjoyed dinner at the Warsaw Restaurant.

Monday morning, the Kansas members reviewed convention plans at an early breakfast. The roll call featured each state, flashing on a large screen as it entered the union; another screen showed a shifting map of the U. S. as the new state was absorbed into the union. Dr. Max Parrott gave the opening address. The noon luncheon featured Bess Myerson, and we heard a terrific talk on consumerism. Monday evening we traveled via bus to a Lamar Hunt Ranch for a mammoth barbecue, and were guests of the Southwestern states. A continuing horse show and Western band were also featured.

Tuesday morning Roy Pfautch presented a stirring talk on "The Mood of America," which included many sobering thoughts. Reports were read by each state's president, and Kansas received a membership award. We joined medical society members to hear Dr. DeBakey's program on "Advances in Cardiovascular Disease." A communications workshop on oral and written communications was excellent. All delegates voted for the nominating committee and the new Auxiliary seal, and our entry by Mrs. Alice Martin placed second. That evening, we enjoyed a fabulous buffet at the Crystal Palace Restaurant and attended the opening presentation of "Mame," starring Angela Lansbury.

However, Wednesday was the convention highlight for Kansans, when Mrs. Lela Mae Young, of Kansas City, was installed the national President-Elect. We proudly wore our Kansas sunflowers featuring Lela Mae's picture. I was honored to introduce her and to present her with a lovely Kansas wheat hanging, wheat sprays, and yellow daisies from the Kansas delegation. Mrs. Edith Lessenden, of Topeka, was installed in absentia the North Central Regional Vice-President. Kansans should be proud of these two lovely, intelligent, and accomplished ladies who have lifted our Auxiliary to prominent heights nationally.

Please join us in our congratulations and best wishes to Lela Mae and Edith.

Sincerely,
Jean Cavanaugh
President,
Woman's Auxiliary to the
Kansas Medical Society



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This fixed combination drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

* **Indications:** *Edema:* That associated with congestive heart failure, cirrhosis of the liver, the nephrotic syndrome; steroid-induced and idiopathic edema; edema resistant to other diuretic therapy. *Mild to moderate hypertension:* Usefulness of the triamterene component is limited to its potassium-sparing effect.

Contraindications: Pre-existing elevated serum potassium. Hypersensitivity to either component. Continued use in progressive renal or hepatic dysfunction or developing hyperkalemia.

Warnings: Do not use dietary potassium supplements or potassium salts unless hypokalemia develops or dietary potassium intake is markedly impaired. Enteric-coated potassium salts may cause small bowel stenosis with or without ulceration. Hyperkalemia (>5.4 mEq/L) has been reported in 4% of patients under 60 years, in 12% of patients over 60 years, and in less than 8% of patients overall. Rarely, cases have been associated with cardiac irregularities. Accordingly, **check serum potassium during therapy, particularly in patients with suspected or confirmed renal insufficiency (e.g., elderly or diabetics). If hyperkalemia develops, substitute a thiazide alone. If spironolactone is used concomitantly with 'Dyazide', check serum potassium frequently**—both can cause potassium retention and sometimes hyperkalemia. Two deaths have been reported in patients on such combined therapy (in one, recommended dosage was exceeded; in the other, serum electrolytes were not properly monitored). Observe patients on 'Dyazide' regularly for possible blood dyscrasias, liver damage or other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium (triamterene, SK&F). Rarely, leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with the thiazides. Watch for signs of impending coma in acutely ill cirrhotics. Thiazides are reported to cross the placental barrier and appear in breast milk. This may result in fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly other adverse reactions that have occurred in the adult. When used during pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus.

Precautions: Do periodic serum electrolyte and BUN determinations. Do periodic hematologic studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in postsympathectomy patients. The following may occur: hyperuricemia and gout, reversible nitrogen retention, decreasing alkali reserve with possible metabolic acidosis, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), digitalis intoxication (in hypokalemia). Use cautiously in surgical patients. Concomitant use with antihypertensive agents may result in an additive hypotensive effect. 'Dyazide' interferes with fluorescent measurement of quinidine.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis; rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting (may indicate electrolyte imbalance), diarrhea, constipation, other gastrointestinal disturbances. Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and, rarely, allergic pneumonitis have occurred with thiazides alone.

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▪ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

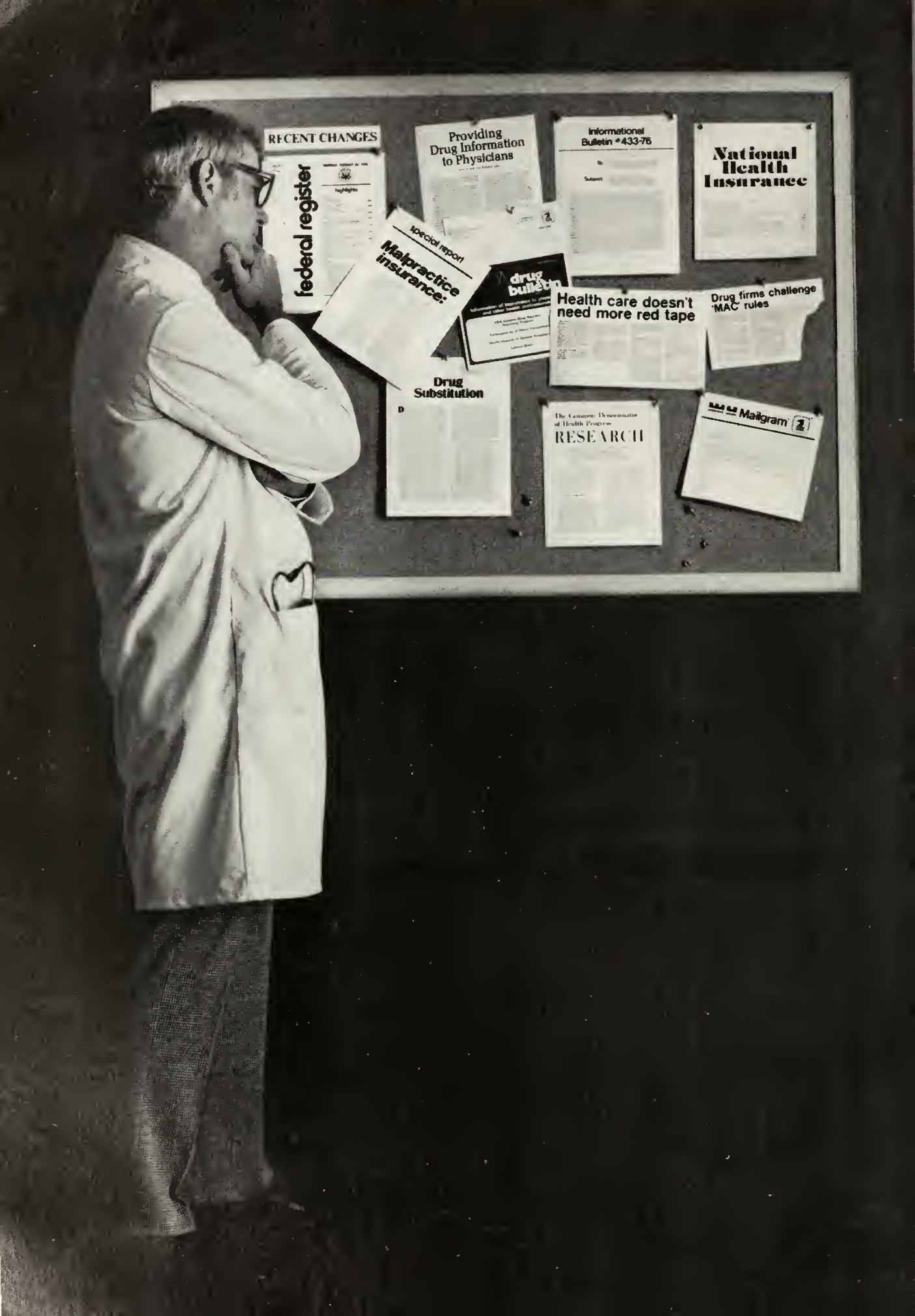
Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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RECENT CHANGES
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

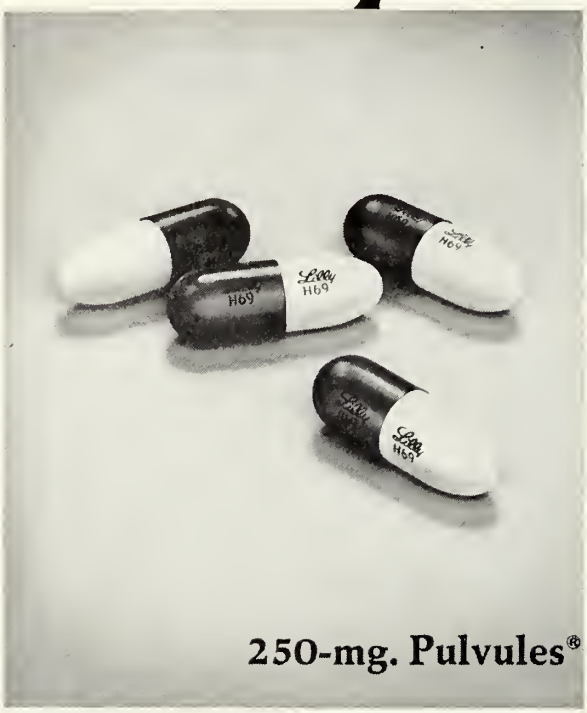
The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

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Third Annual
Wichita State University Branch
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Issue

The Dean's Letter—1976

Wichita State University Branch of KUMC

D. CRAMER REED, M.D., *Wichita**

IN A PREVIOUS MESSAGE, I had occasion to discuss various major project interests as well as goals of the clinical education program in Wichita. The cooperation which we have received from all involved with such efforts, from the Chancellor of the University of Kansas to administrators and medical staffs of local hospitals, has made significant development of major activities possible. The public and members of the Kansas Legislature need to be informed about the extent of this giant cooperative effort. A review of past performance is always an arduous task; however, I will attempt to summarize certain major efforts of the past 16 months.

The second class of graduating MDs completed their clinical studies at the Branch in May 1976. To date, 41 students have completed their clinical education in Wichita. We hope by January 1977 to increase the entering class size to 40; thereafter, one-fourth of each new clinical class of the University of Kansas School of Medicine will be assigned to the Wichita campus. The real strengths in our program grow out of its smallness as well as the personal attention made possible by a wide range of resources, both facilities and personnel. We believe it important to maintain this kind of learning environment.

While our principal mission is that of undergraduate medical education, we also feel that students should have varied exposure to the needs of the community and society. In this context, we have attempted to provide certain services to our immediate community. The community health stations project described in 1974 was successfully continued to June 1975. Medical, nurse clinician, physician assistant, and other health professional students assumed, under supervision, part-time staffing responsibilities for three separate community health stations serving some 800 families from model cities neighborhoods. The project was terminated because the funding, which had been provided by the City of Wichita, had to be transferred to other service projects.

A second community project has been the hypertension screening and awareness program, co-sponsored by the Kansas Regional Medical Program, the Medical Society of Sedgwick County, and the Sedgwick County Heart Association. The mobile screening van has served most public areas in Wichita, has traveled to communities as far away as Goodland, and has done screening at some 15 state and county fairs in the past two years. One of the largest mobile, hypertension screening activities in the country, this project has screened 61,000 Kansas residents and resulted in the identification of slightly over 9,000 hypertensive patients, who were referred to physicians for followup care. Several other communities outside the state have contacted us for information about the program, which has served as a model for similar programs elsewhere.

A third service project has involved senior medical students in the Wichita public schools health project, and is supervised by the Branch office of student and program development. Medical students volunteer their time to provide basic medical and health information to grade schoolers about two major organ systems (heart and lungs). In addition, students have also participated in several local high school career days. We are proud of such volunteerism, and hope that our students as well as the community will continue to recognize the importance of such activities.

As a component of the only medical school in a largely agrarian state, one of our greatest public concerns is the maldistribution of health care professionals. We have tried several and will be utilizing a variety of other approaches to increase students' awareness of professional distribution problems as well as non-urban practice opportunities. A physician-community awareness project has for the prior three years provided rural practice opportunity information to residents and student physicians as well as underserved communities seeking physicians.

Our division of special projects serves as a clearing house for such information. It also sponsors annually a rural day, which brings together representatives from smaller communities, physicians, wives and hospital residents, to share perspectives on health care needs as well as to develop more precise understanding of recruitment strategies. During past October, 115 persons, from 47 communities, attended the one-day session on the campus of Wichita State University. This year, the

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conference will be held outside Wichita and jointly sponsored by HEW, Region VII, and the Kansas Medical Society. This fall, a Kansas Rural Health Conference, sponsored by the two medical school campuses, will be held in Wichita and Kansas City. Community leaders throughout the state will be invited to participate in the two one-day meetings, and to visit with resident physicians and students regarding their practice plans.

In addition to the required rural preceptorship, a second activity has been developed to give students an organized exposure to family practice as a unique discipline. Branch students are assigned to a four-week clerkship in family and community medicine. This is taken early in the clinical phase of the curriculum. The program integrates intensive office experience with seminars which address the multiple dimensions of patient care and education. To complement this experience, Branch students also have the option of taking their preceptorship or a family practice elective in Harper. Here, the Branch has worked with the community to establish a model health care and education project. Three part-time and volunteer university faculty supervise a small medical clinic, a 35-bed district hospital, and associated nursing home. Here students have a chance to experience a manageable health delivery system in an environment markedly different from that of the urban teaching hospital. Harper also serves as a center for on-going postgraduate courses sponsored by the Branch and attended by physicians from a number of south-central Kansas communities.

In the planning stage at both Kansas City and Wichita campuses of the medical school is a project to train primary care residents over a significant period of time (two years) outside Wichita and Kansas City. The overall plan, initially, will be to identify two communities with capabilities for managing an integrated family practice residency program. Guidelines for accreditation of such a program have strict requirements with regard to the number of potential patients, hospital beds, medical specialties, facilities, etc., as prerequisites for implementation of the program. Basically, the plan constitutes an additional effort to provide medical education in environments closer to regions that are presently underserved. This plan will require enormous expenditures of time devoted to planning, personnel, and facilities at both campuses. If it is to become a reality, it also implies a significant financial commitment by the State of Kansas in terms of additional resident support and general program support. Such activities, hopefully, reflect the serious concern of the entire medical school system for meeting the health care needs of people in the state.

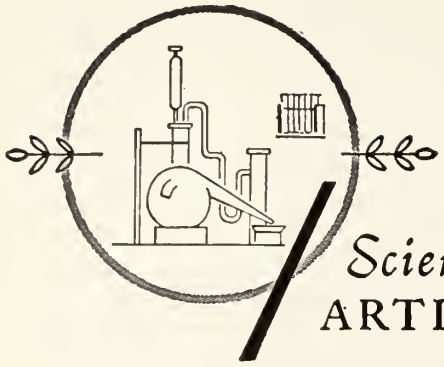
Over the past 16 months, we have taken definite steps to acquire an identity. Since this program owns no building, has few full-time faculty, functions mainly as a coordinating agency, and is, in spite of geographic distance, an integral part of the University of Kansas College of Health Sciences, identity has been difficult for us. We will, however, along with the College of Health Related Professions, occupy a new health sciences building on the campus of Wichita State University by 1978. The success of our programs has demanded the most energetic cooperation among its constituent health care institutions and professionals. As we have learned more about each other, and have begun to acquire some general agreements as to the overall task for health education and care, our development has progressed solidly. Affiliation agreements are now final with each participating health care institution, and virtually all Wichita based graduate medical education programs are involved with medical students.

In addition, the Branch and the Wichita hospitals have received accreditation for two new city-wide residency programs in pediatrics and psychiatry.

To maintain and improve effectiveness in managing our programs, Branch administration has developed the following new divisions: office for integral health education; office for planning, research, and development; and division of postgraduate education. Major responsibility for the first of these is to develop effective learning environments where more than one health discipline is taught; it is a cooperative program involving WSU College of Health Related Professions. The second office provides supervision in several activities that are essential to any quality, educational effort. Through its egis, the Branch has strengthened its relationship with the Wichita Veterans Administration Hospital in joint clinical research projects and special clinical studies pertinent to that particular patient population. The division of postgraduate education recently received full four-year accreditation from the AMA Council on Medical Education and has been effective in co-sponsoring a variety of postgraduate courses in cooperation with other health care and education institutions. Physician program directors for clinical pathology, radiology, and anesthesiology have also been appointed since our last report. Through this mechanism, the subject material pertinent to each discipline will receive appropriate emphasis and can be incorporated in the medical student curriculum.

Finally, we have in operation a small clinic at Fairmount Towers to accommodate the patients of Branch full-time faculty. This is an essential facility which provides an educational function for a variety of health

(Continued on page 398)



Scientific
ARTICLES

Bartter's Syndrome

A Metabolic Study

DENNIS ROSS, M.D.* ***and*** **HUGO P. WEBER, JR., M.D.,†** ***Wichita***

BARTTER'S SYNDROME (juxtaglomerular hyperplasia) was first described by Frederick Bartter in 1962.[1] The criteria for diagnosis include hypokalemia, normotensive hyperaldosteronism, elevated plasma renin, and absence of edema. It is a rare disorder with fewer than 30 cases having been described. This paper details studies in an individual who presented with hypokalemia and was subsequently found to have other manifestations of Bartter's Syndrome.

Case Report

A 27-year-old woman was admitted to Wesley Medical Center for evaluation of hypokalemia and muscle weakness. In 1971, when two months pregnant, she developed marked proximal muscle weakness, particularly in the legs. She was found to be hypokalemic and was treated with potassium supplementation of 60 mEq potassium per day. This ameliorated most of her symptoms, although she continued to have episodic muscle weakness. In June 1974, she was hospitalized in Amarillo, Texas, for acute pyelonephritis, at which time she was found to be hypokalemic despite potassium supplementations.

The patient moved to Wichita and on March 11, 1975, was admitted with a serum potassium of 2.2 mEq/liter. She gave no history of salt craving, hypertension, edema, diarrhea, or vomiting. She did give a history of frequent urination, but without burning or urgency. She denied licorice ingestion, use of thiazides, or oral contraceptives.

Her past history included "seizures" since age five. These had been treated with diphenylhydantoin and phenobarbital until one year prior to this admission. She had been pregnant four times, which resulted in one spontaneous abortion and three living children. The only pregnancy known to be complicated by hypokalemia was the fourth, in 1971.

Her family history included a sister with a similar problem of hypokalemia which also first became symptomatic during pregnancy. A paternal aunt and uncle were reported to have low serum potassium requiring replacement therapy.

Physical examination revealed the following: vital signs were normal, with blood pressure 100/80 lying, 110/70 standing; height, 5′8″; weight, 54.4 kg (119 lb). The neurological examination revealed generalized muscle weakness most prominent in both hip flexors. The patient was unable to rise from a squatting position without the aid of her arms. Positive Chvostek's and Trousseau's signs were elicited.

Normal laboratory results were obtained from the following studies: urinalysis with urine pH 5, SMA-12, VDRL test for syphilis, morning and afternoon serum cortisol, chest x-ray, IVP, and CBC. Serum potassium

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measured 2.6 mEq/l with a concomitant urine potassium excretion of 106 mEq/24 hours.

Because there was no evidence of hypokalemia from gastrointestinal loss, drugs, or excess cortisol, an evaluation was undertaken to study urine potassium excretion in this individual. In addition, studies to determine the presence of autonomy of aldosterone production during stimulation and inhibition tests were undertaken.

Method

The patient was hospitalized and was studied during two four-day periods after baseline studies were obtained. During the first four-day period an ad lib diet of low sodium content was provided. This diet was followed by one of high sodium content during the second four-day period. Dietary potassium was supplemented with 150 mEq KCl/day during the entire eight-day period.

Timed urine specimens with concomitant serum samples were obtained daily during the eight-day period. Electrolyte determinations, BUN, and creatinines were measured using standard autoanalyzer techniques. Calcium and magnesium were determined on an atomic absorption spectrophotometer. Plasma renin activity was measured according to the method of Haber *et al.*[2] Urinary aldosterone was measured by a competitive protein binding using radioimmunoassay technique. Plasma aldosterone was likewise measured utilizing radioimmunoassay.

Results

During a four-day period when urine sodium averaged 58.5 ± 19 mEq/24 hrs, urine potassium averaged 223 ± 44 mEq/24 hrs, urine calcium 35.5 ± 2 mEq, and urine creatinine 3911 ± 240 mg. A mid-period urine aldosterone test resulted in 53.7 μg/24 hrs (normal: 3-20 μg/24 hrs). Concomitant average serum electrolytes measured Na^+ — 141 mEq/l; K^+ — 3.0 mEq/l; HCO_3 — 36 mEq/l; Ca — 9.3 mg/dl; Mg^+ 1.2 mEq/l. Average serum renin measured supine and fasting was 6.8 ± 1.37 ng/ml/hr (normal: 0.5-2.0 ng/ml/hr) and plasma aldosterone 42.2 ± 8.1 ng/dl (normal: 3-16 ng/dl).

During a four-day period, when urine sodium averaged 125 ± 34 mEq/24 hrs ($p < 0.02$), urine potassium averaged 153 ± 32 mEq/24 hrs ($p < 0.01$), calcium 33 ± 5.1 mg, magnesium 7.3 ± 3.1 mEq, and creatinine 3319 ± 60 mg. Urine aldosterone excretion fell to 15 μg/24 hrs. Concomitant serum values were Na^+ — 143 mEq/l; K^+ 2.9 mEq/l; HCO_3 35.4 mEq/l; Ca 9.1 mg/dl; Mg^+ — 1.1 mEq/l; creatinine 1.0 mg/dl. Serum renin averaged 5.30 ± 3.6 ng/ml/hr, and plasma aldosterone 19.9 ng/dl.

In *Figure 1,* urine potassium excretion is plotted with urine sodium excretion during the eight days of the study. During the first four days, a period of low sodium excretion, urine potassium was high, averaging 223 mEq/24 hrs. During the last four days of the study, a period of high sodium excretion, urine potassium dropped to an average of 155 mEq/24 hrs. In *Figure 2,* plasma aldosterone is plotted during the eight days of the study. Plasma aldosterone fell into the normal range during the last four days of the study, a period of high sodium excretion.

In *Table I,* both serum and urine potassium are compared during the eight days of the study. Serum potassium remained low throughout the study, averaging 3.0 mEq/l, and urine potassium remained inappropriately high, averaging 179 mEq/24 hrs.

In *Table II,* all the data collected on this patient is tabulated. Serum bicarbonate was high, averaging 36 mEq/l. The serum chloride was low, averaging 95 mEq/l. Although serum calcium was normal, averaging 9.2 mg/dl, the serum magnesium was low, averaging 1.1 mEq/l.

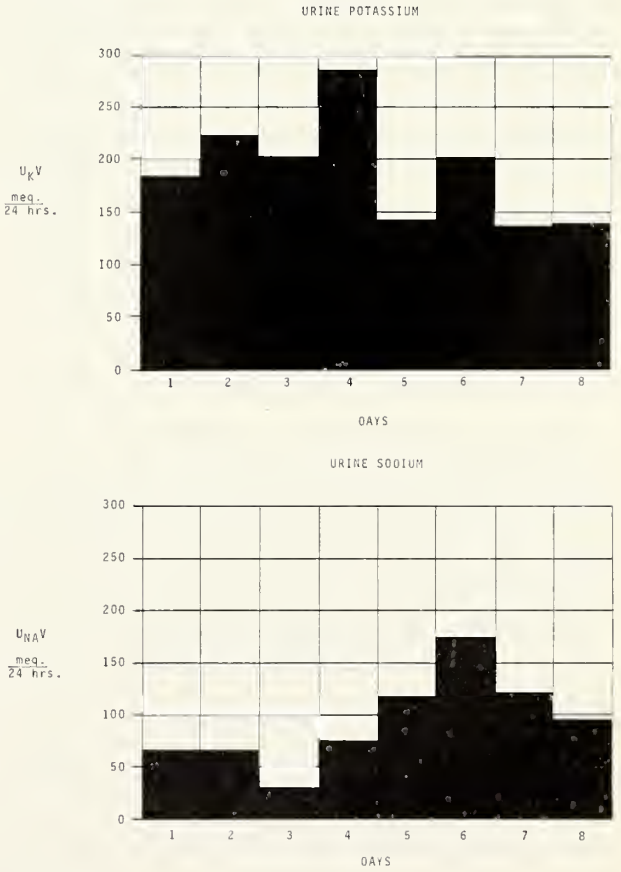


Figure 1

TABLE I

Days of Study	P_K mEq/l	U_K mEq/24 hrs
Baseline	2.2	
	2.2	
	2.6	106
1	3.1	181
2	3.2	222
3	3.0	205
4	2.8	285
5	3.0	143
6	3.3	201
7	3.0	133
8	2.5	137

The data indicate that despite persistent hypokalemia, urine potassium excretion was inappropriately high. At the same time, the serum chloride was low and the serum bicarbonate was elevated, producing metabolic alkalosis. Basal plasma aldosterone and plasma renin activity were elevated. Urinary aldosterone was elevated during low sodium intake but was suppressed with high sodium intake, indicating no autonomy of aldosterone production. Plasma renin actively fell during salt loading but not to within the normal range. Thus, we have a patient with hypokalemic alkalosis with renal potassium wasting, elevated renin and aldosterone, with normal blood pressure and absence of edema. This is consistent with a diagnosis of Bartter's syndrome.

Discussion

Bartter's syndrome appears to exist in two forms. A severe form which appears early in life is characterized by growth failure in addition to electrolyte imbalance. Such individuals frequently present as a failure to thrive in infancy and may succumb in the first few months of life. A milder form may appear early or may not be seen until adolescence or early adulthood, as in our patient.[3–8]

Familial involvement exists in Bartter's syndrome. The type of inheritance has not been determined, but has been thought to be autosomal recessive. It is interesting that in our patient, a sister and paternal aunt and uncle have had problems with hypokalemia. Although these family members have not been studied, if they are found to have Bartter's syndrome, it will be the first description of this defect encompassing two generations.

It was originally proposed by Bartter and his associates that this syndrome was a result of impaired vasopressor response to angiotensin II, which in turn stimulated renin release from the juxtaglomerular apparatus.[1] It is now known that there is a decreased vasopressor response to angiotensin II with any volume depleted state.[9] Cannon[10] and later Trygstad[11] felt the basic defect was located in the proximal tubule, with failure of the proximal tubule to reabsorb sodium. The unabsorbed sodium is thought to "flood" the distal tubule, where an attempt is made to reclaim the sodium under

TABLE II

	BLOOD										URINE								
DAYS OF STUDY	Na 135-145 mEq/l	K 3.5-5.0 mEq/l	Cl 98-108 mEq/l	CO_2 25-30 mEq/l	Ca 9-10.5 mg/dl	PO_4 2.5-4.5 mg/100ml	Mg 1.5-2.5 mEq/l	Creat. 0.6-1.2 mEq/l	Renin 0.5-2.0 mg/ml/hr	Aldosterone 3-16 ng/dl	Na 40-178 mEq/day	K 30-99 mEq/day	Ca 100-300 mg/day	PO_4 50-150 mg%	Mg 4-20 mEq/l	Aldo 3-20 µg/24hrs	Urine Volume	Urine Creat. mg/24 hrs.	Creat. Clear 74-130 ml/min
BASELINE	138	2.2	94	37.0															
	140	2.2	94	37.0	9.1	2.1	1.2		5.70	25.1									
	142	2.6	97	35.0	9.3	2.7		0.9			126	106	18		4.6	18.2			
1	142	3.1	94	37.5	9.3	2.2		0.8	7.80	35.5	65	181	29				1965	943	82
2	141	3.2	94	37.0	9.3	2.6		0.8	5.85	47.0	65	222	32				1900	1026	89
3	139	3.0	91	34.5	9.8	2.7		0.8			30	205	35	24	4.9	53.7	1650	792	69
4	143	2.8	98	35.0	8.8	3.5	1.2	0.8			74	285	46	22	4.7		2300	1150	100
5	141	3.0	94	35.5	8.7	4.3		1.0	3.75	35.0	116	143	30	20.7	3.4		2270	817	57
6	145	3.3	101	35.0	9.1	3.7	1.2	1.0	4.80	11.8	173	201	36	22	3.5	13.0	2750	880	61
7	143	3.0	96	36.0	9.3	3.8	1.0	1.1	4.20	19.1	120	133	35	30	3.5		1820	801	51
8	144	2.5	97	35.0	9.4	3.4	1.1	1.2	8.40	13.8	91	137	31	18	3.2	17.0	1710	821	48

the influence of aldosterone. Potassium is exchanged for sodium in the distal tubule leading to excessive potassium excretion and hypokalemia. White,[12] more recently, has shown that bicarbonate reabsorption which occurs in the proximal tubule was normal in his two patients with Bartter's syndrome. This, together with no evidence of hyperuricemia, hypercalciuria, aminoaciduria, renal glycosuria or hyperphosphaturia, are given as evidence that the proximal tubular mechanisms are intact in Bartter's syndrome. Moreover, total adrenalectomy with elimination of aldosterone production has not corrected the potassium deficiency.[11]

In recent micropuncture studies of the medullary thick ascending limb of Henle, chloride was found to be actively transported into the medullary interstitium.[12, 13] Sodium, rather than being actively transported, was found to be passively absorbed in order to maintain electrical neutrality. On the basis of these studies, Kurtzman and Gutierrez[14] speculate that in Bartter's syndrome an abnormality in this active chloride pump leads to sodium, potassium, and chloride loss. With volume reduction resulting from the sodium loss, renin would be released in excessive amounts, leading to secondary aldosteronism. Sodium-potassium exchange in the distal tubule from the elevated aldosterone worsens the hypokalemia. Aldosterone suppression would, therefore, improve the hypokalemia but not correct the condition. Our case further exemplifies these characteristics. The patient maintained hypokalemia, hypochloremia, and metabolic alkalosis throughout the study. Sodium loading reduced the plasma aldosterone to a normal value and decreased potassium excretion; however, potassium excretion remained inappropriately high for serum values. Aldosterone production in this patient was not autonomous, and suppression of aldosterone was accomplished, but this did not correct the potassium wasting.

In addition to the physical symptoms from hypokalemia, such individuals may display emotional illness. Our patient was much like the individual with Bartter's syndrome described by Lucas and Didisheim.[15] She had a cyclothymic personality with periods of depression alternating with periods of marked euphoria. She could be happy and jocular one moment, and crying and depressed the next. She was easily angered and would frequently argue with the hospital personnel. The correlation of Bartter's syndrome and personality characteristics is yet to be determined, but it is interesting that both of these individuals behaved in a similar manner.

The management of Bartter's syndrome begins with potassium replacement. This should be with potassium chloride because chloride loss is an important part of

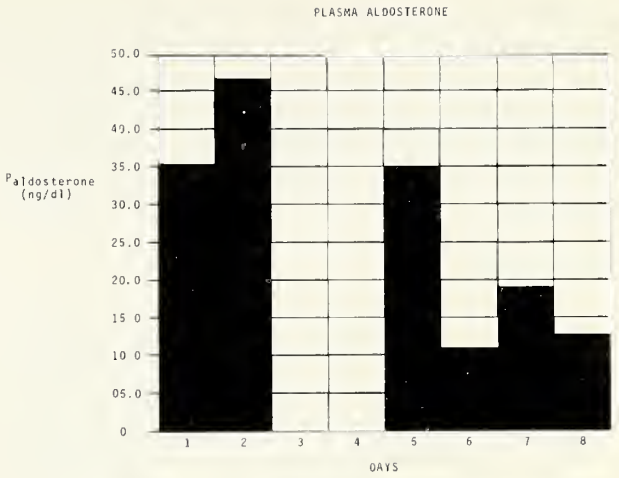


Figure 2

the tubular defect, as discussed above. Aldosterone antagonists, such as spironolactone, will benefit hypokalemia but will not correct it, as would be anticipated from the findings in our patient. Frequently, large doses are required before an adequate response is seen, and even then total correction is not usually achieved. Magnesium can be helpful in managing Bartter's syndrome. Mace *et al.*[16] have described the use of magnesium oxide in an 11-week-old black infant with Bartter's syndrome. With magnesium supplements in this infant, there was improvement in muscle strength and tone, an increase in appetite, and weight gain. Propranolol, an anti-renin drug, can lower renin toward a normal value, but it has not been very useful in Bartter's syndrome.[17] Because renin elevation appears to be a secondary and appropriate response to sodium loss in Bartter's syndrome, it is not anticipated that it would correct the hypokalemia. Likewise, methyldopa, which also possesses anti-renin effect, has not been successful in treating Bartter's syndrome.[18] Indomethacin has recently been shown to be effective in one individual with Bartter's syndrome. Verberckmoes *et al.*[19] postulate that in Bartter's syndrome perhaps an unknown factor causes inappropriate release of prostaglandins, which leads to decreased sodium reabsorption, volume depletion, angiotensin insensitivity, increased renin secretion, and secondary aldosteronism. Indomethacin is known to have properties as a prostaglandin synthetase inhibiter, which may explain the beneficial effect in this individual. The mechanism of action, on the other hand, may be a nonspecific sodium retaining property of the drug.

Summary

A case of Bartter's syndrome was discussed. Renal potassium wasting was demonstrated during a study period when the patient received 150 mEq of supple-

mental KCl/day. Plasma renin was high during salt depletion and repletion. Plasma aldosterone was suppressible but, despite suppression, our patient demonstrated inappropriate urine potassium excretion. Recent observations of chlorine transport in the ascending limb of Henle's loop may explain the defect in Bartter's syndrome.

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Massive Liver Hemorrhage

Hepatic Artery Ligation

GEORGE J. FARHA, M.D., JOHN W. HARLAN, M.D., *and* FREDERIC C. CHANG, M.D., *Wichita*

MASSIVE HEPATIC HEMORRHAGE secondary to trauma has in the past been largely attributed to blunt trauma from automobile and motorcycle accidents, with some injuries occurring secondary to penetrating wounds. The major cause of death from such injuries has been from uncontrollable hemorrhage or associated organ injury. The mortality rate rises exponentially with other organ injury, *i.e.,* vena cava tear, renal hemorrhage, abdominal aorta tear, or splenic laceration. A secondary cause of death, if the patient survives the initial insult of hemorrhage and shock, has been overwhelming sepsis or respiratory failure. Sepsis in some instances has been enhanced by inadequate drainage of the hepatic bed.

The approach to a patient with hepatic hemorrhage is outlined. Physiological changes which occur after ligation of the hepatic artery are stressed.

Massive hepatic hemorrhage secondary to blunt abdominal trauma has been approached surgically in a variety of forms. In the past, hemostasis has been attempted by packing the liver bed with sponges, to be removed three to five days later after the patient's condition has been stabilized by the initial tamponade. Suture ligation may be useful for small injuries, but may prove futile for massive hepatic lacerations. Hepatic lobar resection has been performed for localized lacerations; however, this procedure is fraught with difficulties and may be anatomically unfeasible in some situations.

Hepatic artery ligation may be used as a primary method of controlling hepatic arterial hemorrhage and has been life saving in some instances.[1,2] This paper describes two cases of blunt abdominal trauma with hemorrhage controllable only by hepatic artery ligation. The approach to a patient with hepatic hemorrhage is outlined as well as physiological changes which occur after ligation of the hepatic artery.

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Case One

A 29-year-old white female was brought to the emergency room of a community hospital on April 25, 1974. The patient was in shock at the time of admission, with blood pressure recordings of 88/56 mm Hg and 80/40 mm Hg. She was pale, cold, clammy, and complained of abdominal pain and fainting. She denied abdominal trauma. Her last normal menstrual period was two months prior to admission. Her past medical history was significant only for a right nephrectomy for chronic pyelonephritis approximately four years previous without sequelae. The physical examination was significant for the following: (1) an exquisitely tender abdomen with rapidly expanding distension and absent bowel sounds; (2) the pelvic examination revealed pain on cervical motion; and (3) there was no evidence of trauma to the abdominal wall.

The patient was taken to the operating room and found to have a stellate laceration of the right lobe of the liver and complete laceration to the left lobe of the liver. The left lobe was resected and the arteries of the hepatic parenchymal bed were suture ligated. Control of hemorrhage could not be obtained until the Pringle maneuver was performed. The right hepatic artery was ligated but failed to completely control the hemorrhage. The common hepatic artery was then ligated with 0-silk ligature which controlled the hemorrhage. The 12th rib was then resected for drainage using the transabdominal approach. The postoperative course was complicated by the adult respiratory distress syndrome which was treated with assisted ventilation on the MA-1 respirator and systemic steroids.

The bilirubin level was increased postoperatively and the albumin level was decreased. The serum glutamic oxaloacetic transaminase (SGOT) was elevated transiently after ligation of the hepatic artery, as shown in *Figure* 1. The patient was discharged on the 11th postoperative day and followup at four months after operation showed the serum albumin, protein, LDH, SGOT,

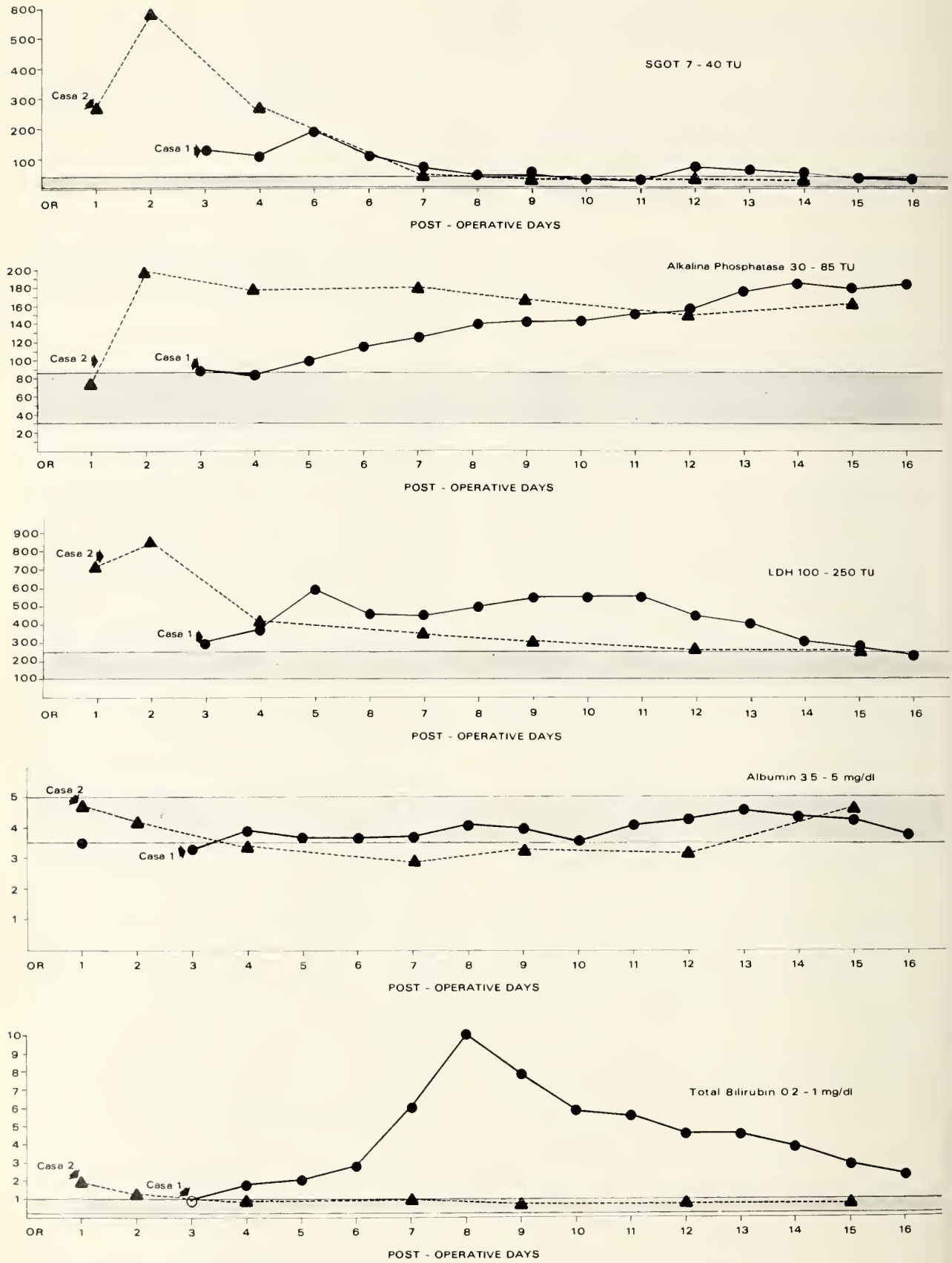

SGOT 7 - 40 TU
Casa 2
Casa 1
800
500
400
300
200
100
OR 1 2 3 4 6 6 7 8 9 10 11 12 13 14 15 18
POST - OPERATIVE DAYS
Alkalina Phosphatasa 30 - 85 TU
200
180
160
140
120
100
80
60
40
20
OR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
POST - OPERATIVE DAYS
LDH 100 - 250 TU
900
800
700
600
500
400
300
200
100
OR 1 2 3 4 5 8 7 8 9 10 11 12 13 14 15 16
POST - OPERATIVE DAYS
Albumin 3 5 - 5 mg/dl
5
4
3
2
1
OR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
POST - OPERATIVE DAYS
Total Bilirubin 0 2 - 1 mg/dl
10
9
8
7
6
5
4
3
2
1
OR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
POST - OPERATIVE DAYS

Figure 1

alkaline phosphatase, and bilirubin all within normal limits.

Case Two

A 6-year-old white male was fishing on April 5, 1975, and fell from a height of approximately five feet onto some rocks below; the upper-right abdominal region receiving the major force of the fall. He was then taken to the emergency room of a community hospital for examination. He developed shock soon after admission and was taken to the operating room where he was found to have a transverse laceration to the liver. The Pringle maneuver was performed with control of hemorrhage. The common hepatic artery was then ligated and a sump drain placed through a separate stab incision. The patient was transferred to St. Francis Hospital for further care.

During hospitalization, this patient experienced a similar rise in LDH, SGOT, and alkaline phosphatase with a decrease in cholesterol *(Figure 1)*. He was treated with fluids and bed rest initially using intravenous glucose and salt-poor albumin for five days, then a high carbohydrate, low protein diet. He continued to improve.

He was discharged on the 17th postoperative day and has continued to do well at home. A one-year followup liver scan showed no defects and appeared normal. The alkaline phosphatase was elevated to 85 u/1 (N = 9-35 u/1) while the serum LDH, SGOT, albumin, and protein were normal.

Discussion

The approach to a patient with hepatic hemorrhage as outlined by Lewis[3] is based on severity of injury and extent of hemorrhage. If at the time of laparotomy, the laceration appears to be superficial and the bleeding has stopped, the clot should be evacuated and the abdomen closed. If the lacerations appear deep but there is no apparent hemorrhage, the hepatic bed should be drained and the abdomen closed. If the bleeding is continuous, pressure with warm packs for 10 minutes may stop the bleeding. In the face of moderate hemorrhage, attempts should be made to suture ligate individual bleeding points. Mass suture ligation may compromise adjacent structures and, therefore, should not be used. Hemobilia, intrahepatic abscess, or devitalization of the liver substance may be produced by large mattress sutures.

If the bleeding is massive, the Pringle maneuver should be used. If bleeding stops, investigate the laceration and oversew bleeding points if possible. If bleeding points cannot be located, dissect the portal vein and hepatic artery. If clamping results in control of bleeding, ligate the appropriate lobar artery or vein. If occlusion of both is required and mottling of the liver occurs, the segment should be resected. Vena cava injury should be suspected if hemorrhage is not controlled by the Pringle maneuver.

The most preferred site of ligation is the appropriate right or left hepatic lobar artery. The next preferred site of ligation is proximal to the gastroduodenal and right gastric artery or between these two large branches. The least preferred site of ligation is the proper hepatic artery *(Figure 2)*.

The amount of liver necrosis appears to be related to the degree of collateral blood flow. Usually, there are no large collateral arteries distal to the right gastric artery. Michels[4] has described 26 collateral pathways for arterial blood flow to the liver and grouped them according to anatomical origin. Michels found ten collateral pathways via aberrant hepatic arteries and six pathways via a circuitous course through the greater or lesser omentum and pancreas, and additional ten pathways outside the celiac axis blood supply. These usually require at least 24 hours to become dilated sufficiently to function as significant blood supply to the liver.

Adequate drainage is a necessity. The 12th rib should be resected, usually transabdominally, after ligation. Penrose drains or sump catheters may be used, however, a large area of drainage should be maintained; *i.e.,* large enough to insert a hand through the drain site daily to maintain patency.

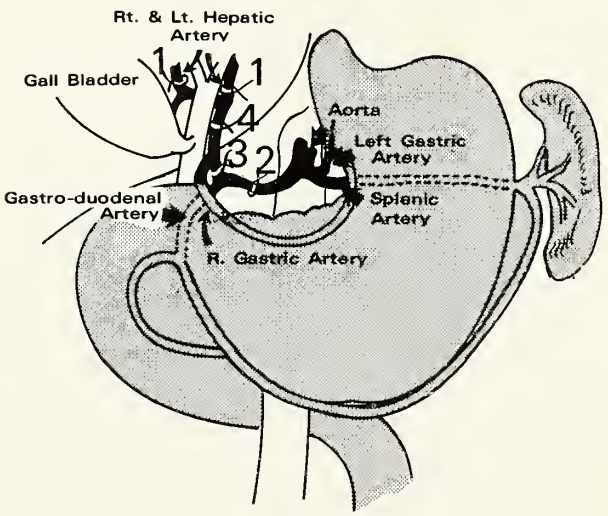


Figure 2. 1. Right and left hepatic lobar arteries. 2. Common hepatic artery. 3. Common hepatic artery, proximal to gastroduodenal branch and distal to right gastric branch. 4. Proper hepatic artery, distal to all major collateral branches.

The hesitancy of most surgeons to ligate the hepatic artery in the clinical setting has probably been enhanced by laboratory investigations, as well as sporadic reports of death to patients having hepatic artery ligation. Dragstedt's[5] study on canines, in which hepatic artery ligation was performed, met with a high percentage of death due to overwhelming sepsis and liver parenchymal necrosis. Markowicz, Rappoport and Scott[6] found that 100 per cent of the dogs who underwent hepatic artery ligation died when not treated with antibiotics. It has been estimated by Madding[1] that 25 per cent of hepatic flow and 50 per cent of the oxygen supply to the liver is delivered via the hepatic artery, with 50 per cent of the oxygen supply and 75 per cent of the hepatic blood flow through the portal vein and collateral supply.

Certain physiologic alterations may occur after hepatic artery ligation which must be recognized. In dogs, intravenous infusion of glucagon produces a 90-per cent increase in portal vein flow and a 70-per cent increase in portal vein pressure.[6] However, in man, the effect of glucagon on mesenteric blood flow is controversial and is advocated by some authors[1,3] and not by others.[7] Mays[8] has also studied the effects of hepatic artery ligation in man and found that there is a decrease in serum lactic dehydrogenase and serum glutamic oxaloacetic transaminase, with a slight rise in the serum alkaline phosphatase from postoperative day one to three, with a steady decline thereafter. Also, the bilirubin increases transiently by approximately 10-13 days, then decreases to normal by 35 days. The serum cholesterol remains below normal for the first two weeks, then gradually rises to 150 mg/dcl. Clotting abnormalities are reflected by an abnormal prothrombin time, which may be an indication of severe hepatic trauma or may reflect the problems compounded by massive transfusion in these patients. All of these laboratory values indicate the effects of massive hepatic trauma and may vary with the severity of the hepatic insult. The two patients presented here show somewhat similar laboratory abnormalities of hepatic function without clotting abnormalities being present.

Postoperative care of the patient after hepatic artery ligation should include complete gastrointestinal tract rest with only intravenous fluids. It is believed that any stimulus to increase hepatic function would be detrimental to the liver, which is in a possibly tenuous state of partial necrosis. After four-five days of fasting, on parenteral glucose and albumin, a low protein, high carbohydrate diet may be initiated. Early oxygen administration is beneficial. Serum albumin should be given from the first postoperative day, since nearly all patients exhibit some decrease in serum albumin, which again reflects massive hepatic injury.

Antibiotics should not be used unless there is evidence of need. Prophylactic use of antibiotics in the past has been based on the previously cited work of Dragstedt[5] and others,[6] who have shown that dogs undergoing hepatic artery ligation survive when prophylactic antibiotics are used, while the mortality is between 80-100 per cent in those not treated with antibiotics. This may be explained by the fact that the canine liver is rich in anaerobic bacteria as well as aerobic bacteria, streptococcal species, Clostridia, staphylococcus albus, and Lactobacillus which are not present in the human liver.

Indications for hepatic artery ligation include arteriovenous fistula in a liver lobe, treatment of metastatic carcinoma, intrahepatic and extrahepatic aneurysms, hepatic artery and portal vein fistulas, hemangiomata of the liver, portal hypertension, accidental injury at the time of surgery, hemobilia, and acute trauma with massive hemorrhage.

Summary

Two cases were presented documenting survival after massive hepatic trauma. Both cases were treated by hepatic artery ligation and demonstrate that hepatic artery ligation for the treatment of traumatic liver injury can be life saving, and probably should be considered as a primary procedure for arterial hemorrhage if individual smaller vessel ligation fails to control bleeding, and hemorrhage is controlled by the Pringle maneuver. Packing of hepatic lacerations for hemostasis is to be condemned as a primary or sole treatment, since hemorrhage usually resumes after the packs are removed. Antibiotics should not be used prophylactically but only as indicated.

Acknowledgement

Dr. C. McElhinney and Dr. E. Williams, Dodge City, permitted the use of these two cases.

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Pseudo-Obstruction of Colon

Resolution Following Paracentesis

ROBERT D. WIMMER, M.D. and RICHARD M. SKIBBA, M.D., *Wichita*

INTESTINAL PSEUDO-OBSTRUCTION is a syndrome characterized by the clinical signs and symptoms of mechanical intestinal obstruction, but where no obstructive lesion can be demonstrated by barium contrast studies, laparotomy, or autopsy.[1] Three variations of this syndrome have been described in the literature: a recurrent "idiopathic" form; a "chronic" persistent form associated with specific diseases; and an "acute transient" variety.[2, 3] Presented here is a patient with cirrhosis and massive ascites, who developed acute transient colonic pseudo-obstruction that resolved after therapeutic paracentesis.

Case History

A 70-year-old white female with ascites and biopsy proven macronodular cirrhosis was admitted for hematemesis. Emergency upper gastrointestinal panendoscopy confirmed the suspected diagnosis of bleeding esophageal varices. The patient initially responded to intravenous administration of posterior pituitary extract, however, a Sengstaken-Blakemore tube was eventually required to stop the bleeding.

The patient became febrile on the third hospital day. A diagnostic paracentesis revealed a cloudy fluid which on culture grew *Enterobacter cloacae*. She was treated with parenteral penicillin, and quickly became afebrile. The Sengstaken-Blakemore tube was discontinued on the fourth hospital day, and the patient's condition remained stable.

The patient experienced abdominal pain on the sixth hospital day. Physical examination revealed the abdomen to be tympanitic with high-pitched tinkling bowel sounds. A plain film of the abdomen revealed marked distention of the colon from the cecum to the level of the splenic flexure, absence of air in the rectum, and a moderately dilated small bowel. A nasogastric tube was placed and intermittent suction was applied. There was no improvement after four days of the treatment. The search for an electrolyte imbalance or a focus of infection was unrewarding. A barium enema was performed which showed unrestricted flow of barium to the cecum. The ascending and transverse colon remained markedly distended with the cecum dilated to 12 cm, and the transverse colon to 15 cm.

A therapeutic paracentesis was performed on the tenth hospital day, in an attempt to alleviate some of the patient's abdominal discomfort. Eleven liters of clear ascitic fluid was slowly removed by transabdominal needle aspiration. Culture of this fluid was negative. Twelve hours later, the patient was markedly improved: bowel sounds became active and lost their high-pitched character; she began passing flatus and having occasional small bowel movements. Subsequent plain film of the abdomen showed only a small amount of gas scattered throughout the colon. Oral feedings were reestablished without recurrence of obstructive signs and the patient was discharged three days later.

A case of acute transient colonic pseudo-obstruction, in a patient with cirrhosis and massive ascites, is presented.

Discussion

Of the three forms of intestinal pseudo-obstruction (idiopathic, chronic, and acute transient), the idiopathic variety seems clearly separable from the others. Patients with this disorder have episodes of obstructive symptoms recurring over a period of years. The "obstruction" is usually accompanied by diarrhea (occasionally steatorrhea) and weight loss, and there may be laboratory evidence of malabsorption.[4, 5] Abdominal films taken during an exacerbation show dilatation and air-fluid levels occurring in both the large and small bowel. Treatment, whether medical or surgical, has generally been unsuccessful in preventing recurrences.

The variety termed "chronic intestinal pseudo-obstruction" encompasses those patients who fulfill the clinical criteria for intestinal pseudo-obstruction, but who have a chronic underlying systemic disease which is felt to be directly responsible for their intestinal difficulties. Cases have been reported in association with

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myxedema, scleroderma, sprue, amyloidosis, and Chagas' disease.[2, 3, 6, 7]

Various terms, including "idiopathic large bowel obstruction,"[1] "pseudo-obstruction of the large bowel,"[8] "functional large bowel obstruction,"[9] "adynamic ileus of the colon,"[10] and "colonic ileus,"[11] have been applied to the acute transient form of intestinal pseudo-obstruction. This variety is characterized by an isolated "obstructive" episode developing over a period of hours in a patient who is under treatment for a medical problem which does not directly affect the gastrointestinal tract. Associated disorders include myocardial infarction,[8] cirrhosis of the liver,[9] incipient renal failure,[1] cholecystitis,[8] and carcinomatosis.[12] However, as one author has observed, pseudo-obstruction has been reported in association with so many other pathologies that the only factor in common is that the patients are ill.[13]

The mechanism by which pseudo-obstruction occurs is unknown. A variety of causes, including kinking at points of fixation of the colon,[13] electrolyte imbalance,[14] and disturbances of autonomic innervation,[10] have been postulated. There is general agreement, however, that most of these patients have diseases which do not directly involve the intestinal tract.[10, 13] Such disorders probably all act indirectly via common and basic physiologic mechanisms to produce the pseudo-obstructive state.[13]

The typical patient with pseudo-obstruction has marked dilatation of the colon with an abrupt cut-off of gas occurring most commonly at the hepatic flexure, splenic flexure or recto-sigmoid junction, and has varying degrees of dilatation of small bowel.[10, 14] Attention has been drawn to the paucity of air-fluid levels[10, 13, 14] and the presence of bowel gas distal to the apparent obstruction[10, 13] as important points in differentiating this condition from mechanical obstruction, however, many exceptions have been reported[1, 8, 13, 14] and, therefore, these are not reliable diagnostic features. Barium enema will confirm the absence of mechanical obstruction and should be performed whenever possible.

The recommended medical management of intestinal pseudo-obstruction includes intravenous fluids, nasogastric suction, and treatment of associated medical problems.[8] Nonoperative decompression of the colon has been attempted by flatus tubes and enemas, but results have been equivocal.[13]

The indication for operative intervention is impending cecal perforation, however, the incidence of this complication is low.[15] There is general agreement that in cases of dilatation of the large bowel the cecum is the most likely portion to perforate.[15] Lowman and Davis[16] evaluated the problem of cecal perforation in patients with mechanical bowel obstruction. They found that normal cecal size ranges from 3 to 10.5 cm, but is less than 9 cm in 97 per cent of "normal controls." In 19 cases of distention from obstruction, the cecal size ranged from 9 to 16.3 cm. These authors made a diagnosis of "impending perforation" in all patients when it appeared that an obstruction of the colon had caused the cecum to distend to a diameter greater than or equal to 9 cm. All such patients were operated upon with resultant reduction in mortality when surgical decompression was accomplished prior to the development of perforation. Therefore, they recommend surgical decompression in all patients with mechanical obstruction when the diameter of the cecum is 9 cm or greater.

Wojtalik, *et al.*[15] reviewed 12 reported cases of cecal perforation complicating "adynamic ileus" and described four additional cases of their own. The overall mortality rate for the 16 patients was 46 per cent. Based on the studies of Lowman and Davis, Wojtalik recommends surgical decompression by cecostomy whenever the cecum reaches 9 cm in diameter. Adams[10] feels that tube cecostomy under local anesthesia is the procedure of choice. His indications for this measure include a cecal size of 12 cm or more, and lack of improvement after 72 hours of medical management. In his series, the mortality rate was 33 per cent in the non-operated group and 14 per cent in the operated group. Others have recommended that a rapid rate of distention, as well as the increased absolute diameter, is an indication for surgical decompression.[14] Norton, *et al.*[17] suggested that if splitting of the teniae coli is present at the time of surgery, a colectomy and ileostomy are preferable to simple decompression through a cecostomy.

In our patient, a history of previous abdominal surgery and the presence of massive ascites precluded a tube cecostomy under local anesthesia. Surgical decompression under general anesthesia was considered but was felt to carry too high a risk. Having decided to withhold surgical therapy, a paracentesis was performed to provide relief from the discomfort of the tense massive ascites. The prompt resolution of the pseudo-obstruction following the paracentesis was not anticipated. Although a cause and effect relationship remains speculative, a therapeutic trial of paracentesis in a patient with pseudo-obstruction associated with ascites is suggested.

Summary

A case of acute transient intestinal pseudo-obstruction in a patient with cirrhosis and massive ascites was

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Fact and Fantasy

Infant Nutrition

R. A. GUTHRIE, M.D., *and* JAN RIORDAN, R.N., *Wichita*

INFANT NUTRITION is a rapidly changing field; concepts taught in medical schools are rapidly becoming outdated by new research. In the last five years, a resurgence of interest and research into the merits of human milk and advantages of breastfeeding is joined by an awareness of the equally important aspects of the mother-child bond.

Teleologically speaking, the human race would not have survived this long nor have become the dominant species unless it had, through selective adaptation, produced species-specific nourishment for its young. It was Spinoza who warned us that, "Whenever anything in nature seems to us ridiculous, absurd or evil, it is because we have but a partial knowledge of things, and are in the main ignorant of the order and coherence of nature as a whole, and because we want everything to be arranged according to the dictates of our own reason."[1]

As some investigators pinpoint the "magical" properties of breast milk, others discover deleterious effects of cow's milk in the human infant. The purpose of this paper is to provide a brief historical review of the use of cow's milk in infant feeding, and to point out the implications the premature introduction of whole cow's milk has for enteric blood loss, allergy, arteriosclerosis and obesity, and to discuss infant feeding in human somatic and emotional development.

Development of Cow's Milk

In the early part of this century, rapid technical advances in the modification and purification of cow's milk rendered it acceptable for human infant feeding. The developers of milk modification, however, never foresaw the implications of their work, *i.e.,* the switch from the feeding of human milk to the almost universal use of commercial cow's milk preparations for human infants. The use of cow's milk has become so widely accepted that the merits of human milk and breastfeeding, and the dangers of cow's milk feedings, have become almost forgotten by two-three generations of physicians and mothers.

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With the development of the proprietary milk preparations in the 1950s and their almost total adoption in the 1960s for early infant feeding, a problem of iron deficiency anemia emerged. At first, researchers thought there was a problem with the commercial milk, but further investigation showed that the problem was not with the formulae but rather that it was not being used. Because of the expense of the proprietary milk formulae, mothers with their doctor's concurrence and at times encouragement were switching earlier and earlier to whole cow's milk, until today we see babies discharged from the hospital receiving homogenized milk.

Since the development of food processing in the 1950s and its rapid expansion into the baby market in the 1960s, we also see earlier introduction of solid foods to babies. Today, it has become the norm to feed solids prior to one-two months of age, and it has almost become a contest between mothers to see who can feed her babies whole cow's milk and complex foods the earliest; as if the baby's ability to eat meat is a badge of developmental precocity.

Breastfeeding

After several generations of neglect, the physiologic function of the female breast is being rediscovered. Work of such groups as La Leche International, a small but vocal corporation of pediatricians, a group of dedicated anthropologists and a few alert researchers have stimulated a new interest in this ancient art.

Research has brought us a mass of new information on the differences between cow's milk and human milk. Cow's milk is basically formulated by nature for a rapidly growing and maturing organism who must stand on its own feet in one day and quickly mature to independence. The human organism, by contrast, is an organism in whom maturation takes place over years rather than months, and in whom somatic growth must take second place to brain growth in the early months and years. It is, therefore, important to look at the needs of the developing human brain in relation to the nutritional content of the primary source of infant nutrition, i.e., milk.

Very recent data[2,3] indicate that the infant, in contrast to the adult, lacks enzymes necessary for the conversion of tyrosine to cystine, and for the conversion of cystine in the brain to taurine. Cystine is essential for somatic growth, and taurine for brain growth and maturation. In the infant, therefore, cystine and taurine become essential amino acids—they must be ingested in the diet, since they are needed, but cannot be synthesized in the body. Human milk is a rich source of cystine and taurine. In fact, taurine is one of the most abundant amino acids in human milk,[2] perhaps a reflection of the needs of the rapidly growing human brain. Cystine and taurine are almost non-existent in cow's milk, and are extremely low in the blood of infants fed cow's milk.[3]

Many other agents exist in human milk that are not found in cow's milk. Among these are anti-staphlococcol agents, anti-viral agents, immune antibodies, substances involved in the transfer of iron and other trace minerals from the gut to the blood stream, and many others. Colostrum especially is rich in substances needed for future antibody production. It appears that babies fed cow's milk never receive these substances, and have difficulty establishing immunologic responses, perhaps for life. Could this be a reason for the increased incidence of infections and the higher mortality rate in the first year of life in infants fed cow's milk?

Recently, a mother-to-be was told not to breastfeed because she was to return to work in four-six weeks. Unfortunately, she was also told, "If you can only breastfeed for a few weeks, there is no point in starting at all."

The fact is that the many substances in colostrum now being discovered would make it important to breastfeed even if for only three days, to provide these colostrum-related substances to the developing organism.

Maternal-Infant Attachment

Although perfectly adapted to the gastro-intestinal tract of the infant, breastmilk cannot be separated from the total act of breastfeeding (as the French would say, breastfeeding without mothering is *à rebours,* or "against the grain").

It may be that prolactin, the hormone released during the letdown reflex in nursing, influences the behavior of the mother. Virgin rats injected with prolactin responded with remarkable maternal behavior,[4] and in a controlled experiment by Newton,[5] on nursing and non-nursing mice, the nursing mice were far more willing to cross a charged electric grid to get to their young.

As a symbiotic relationship between the nursing couple, breastfeeding is equal to more than the sum of its parts and may be significant in mother-infant bonding during a critical attachment period. An infant not affected by anesthesia will frequently be vigorous and wakeful enough after birth to suckle from his mother's breast in the delivery room. It is a deeply rewarding experience for the mother, as well as beneficially conferring immunologic properties of colostrum to the infant and contracting the mother's uterus by the release of oxytocin.

In the early weeks, babies nurse approximately 10 times per day. At each feeding, the stimuli of smell, facial expression, vocalization, and touch act as social releasers that strengthen the pattern of bonding.[6]

The most significant of the stimuli is the sense of touch, as proven by Harlow's[7] now famous studies on infant rhesus monkeys. Baby monkeys raised with a padded mother showed fairly normal development, while monkeys raised with an unpadded mother showed extreme neurotic behavior. The warmth and feel of the mother's breast and arms, and the sound of her heartbeat, may be more important to the future personality development then we now know.

Further support of the importance of early mother-infant interaction can be found in the 1970 film, quantitatively analyzed by Klaus,[8] of mother-infant contact in full-term and premature infants during their hospital stay. Mothers of full-term babies showed significantly more eye-to-eye contact and accelerated progressive touching behavior than did the mothers who were separated from their premature infants.

The phenomena of imprinting has been observed for some 100 years, but it has been systematically studied and understood only within recent years. The experience by Lorenz[9] as surrogate mother to mallard ducklings and consequent life imprinting is evidence that imprinting is restricted to a certain very brief period in the life of the organism. In certain animals, separation of mother and baby immediately after birth results in rejecting behavior by the mother.[10] Salk[11] hypothesizes that this critical period may be a biochemical mechanism not yet understood. The emotional response to lactation tends to subjectively substantiate this concept.

Hospitals in most countries provide facilities that encourage the mother and infant to be together during their postpartum stay. As we learn more about the critical attachment period, we too should remove some of the strict rules that are imposed upon the mother during her childbearing and breastfeeding function.

Cow's Milk Feeding

If the mother chooses to bottle feed her infant, sev-

eral precautions are necessary. In our observation of infant feeding practices of hundreds of mothers over the past 20 years, certain common errors seem to recur.

Overfeeding. When an infant is breast fed, it will generally take what is needed; the breast will automatically adjust to the infant's needs and produce the right amount of milk by reflexes mediated through the hypothalamus and prolactin secretion. Bottle fed infants, however, lack these maternal controls. To be certain the baby is getting enough, the mother will often put more milk in the bottle than the infant needs, and then "force the issue" by pressing the infant to empty the bottle. This practice often leads to overfeeding, spitting up, "colic" like abdominal pain and, most importantly, obesity. The most common of these is spitting up. Often, vomiting in an infant is not due to formula intolerance or even milk allergy, but overfeeding.

Overfeeding of milk, combined with an early introduction and overfeeding of solid foods, may lead to infantile obesity, with its serious implications for obesity in later life. Obesity is one of the most frequent and most serious nutritional problems, and adult obesity often has its origins in infancy.

Overvitaminization. Commercial formulae are supplemented with vitamins in adequate quantities. The further supplementation of infants with vitamins is unnecessary and potentially harmful, since overdoses of vitamins A and D are damaging.

Oversupplementation. Since the formulae are constituted to be the strength of breast milk, further supplementation with water, sugar water, and juices are unnecessary. Supplementation with plain water, while unnecessary, is probably not harmful, but supplementation with sugar water or juices increases the caloric intake and enhances obesity, stimulates the desire for sweets, and in the case of juices may be potentially allergenic.

Underfrequency of feeding. Many mothers wish to decrease the frequency of feedings as soon as possible to decrease their work load. There is, therefore, a great push to increase the volume of each feeding and to add solid foods as soon as possible to, hopefully, get the infant to sleep through the night and take three meals a day by a few weeks of age. It must be remembered that an infant's stomach is very tiny and can hold only a few ounces of food. Increasing volume and decreasing frequency leads to overfilling of the stomach, spitting up, abdominal pain and, ironically, less sleep for the mother.

Infants should receive small, frequent feedings. The smaller the infant, the smaller and more frequently the infant should be fed. In the first few weeks of life, the infant should not be allowed to go more than 4 hours between feedings. Feedings at intervals of 3 hours or less are also often advisable. In a few days or weeks, the infant will determine the appropriate feeding interval, but until he has established his own schedule, it is advisable to let him go no longer than 3-4 hours between feedings during the day, and 4-5 hours at night. An infant needs at least one nighttime feeding until 6-12 weeks of age; not only does he need the nutrition of a nighttime feeding, but also the maternal-infant contact of frequent feedings.

Milk Allergy. The incidence of cow's milk allergy is not known; there are no definitive laboratory tests to document its presence. Clinical signs include diarrhea, vomiting, colic, respiratory symptoms including wheezing, perhaps infantile eczema and, on occasion, hives and anaphylactic shock.[12, 13] Frank malabsorption syndromes[14] can occur secondary to an allergy to milk protein, or may be due to the deficiencies of the enzyme lactase needed to digest lactose, the sugar of milk. Allergy to cow's milk is probably reasonably high,[13] and for this reason alone human milk feeding should be encouraged. It should be pointed out that allergy to soya protein (the usual formula alternative to cow's milk) is not rare,[15] and may in fact be quite common. We have seen several tragic cases of infants taken off the breast for minor reasons who have then become allergic to both cow's milk and soya bean milk. Devising acceptable feedings for these rather miserable infants poses an extremely difficult problem for the physician.

Hyperosmolarity. Cow's milk formulae, and especially whole cow's milk, are high in protein, saturated fats, and ash and, consequently, have a high osmolarity which places a high solute load on the kidneys. Infants fed cow's milk, and especially cow's milk plus solid foods, have higher plasma osmolarity than do the breast fed infants, and higher than is seen in normal adults.[16] It might be that these high protein formulae and high solute loads contribute to kidney damage manifesting later in life.[17]

Iron Deficiency. With the widespread acceptance of the proprietary formulae in the late 1950s and early 1960s, there was a marked upsurge in the incidence of iron deficiency anemia now regarded as our most widespread nutritional deficiency.[18] It was initially felt that the problem was a deficiency in the formula preparation, and so iron was added. The problem continued and the American Academy of Pediatrics Committee on Nutrition recommended that all formula fed infants remain on an iron containing formula for at least one year. Investigations by Wilson *et al.*[19] and Woodruff *et al.*[10] have shown that the committee was right but for the wrong reason. It is not the iron fortification of the formula feeding that was important, although it is

definitely beneficial, but rather the continuation of a heat treated formula that prevents the iron deficiency. Wilson and Woodruff groups have demonstrated that there are proteins in cow's milk which are injurious to the wall of the bowel, causing occult but persistent bleeding into the bowel lumen and resulting in continuous blood loss in an infant taken off formula before 12-18 months of age. These heat labile proteins are found in homogenized milk, 2% milk, and skim milk. They are not destroyed by the pasteurization-homogenization process, but are destroyed by the cooking process used in formula preparation or by the evaporation process used in the preparation of evaporated milk or powdered milks. It is now clear that infants should remain on some kind of heat processed milk, preferably a formula, until at least 1 year of age if they are not to be breastfed.

Because of the expense of the proprietary formula preparation (currently about $4.85/gallon vs whole cow's milk at about $1.95/gallon), mothers wish to introduce whole cow's milk at an earlier age. An informal survey of mothers in this community revealed that the average age of introduction of whole cow's milk is about 8 weeks of age. Very few infants remained on a formula more than 3-4 months, and a significant number of infants receive whole cow's milk by 2 weeks of age. The practice of feeding infants high protein, high solute, high caloric, and saturated animal fats deserves investigation as to a correlation to the development of renal disease, hypertension, obesity and atherosclerosis, as well as the known problem of enteric blood loss and anemia seen with the early introduction of whole cow's milk.

Summary

After reviewing current studies on enteric blood loss and demonstrations of errors inherent in bottle feeding, researchers have established the merits of the process of breastfeeding, in particular the nutritional superiority of human milk through enzyme action, immunologic properties, and its effect on the long range nutritional status of infants and future adults. It is suggested that the fantasy of modern pediatric practice is that the exponents of human milk should have a defensive role; the fact of the situation is that it is more logical when reversed. The advantages, if any, of feeding with non-human milk have not been substantiated by research. Like pieces of a puzzle gradually being fitted together, medicine and science are documenting evidence of the superiority of breastmilk and at the same time are recognizing the heuristic value of the special relationship between the breastfeeding mother and her infant. The complex problem of the feeding of solid foods to infants is also an important area of new research and will be dealt with in a future paper.

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Hypertension Detection

Screening and Followup

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HYPERTENSION SCREENING programs have been developed in most states of the United States during the past six years because of the reported magnitude of cases with undetected hypertension. All programs operate somewhat differently, but the one essential requirement for any quality program is adequate followup for all individuals screened and found with initially elevated blood pressure readings.[1, 2]

The Hypertension Screening and Awareness Project, funded by the Kansas Regional Medical Program and operated by the WSU Branch-KUMC, has had three major objectives: (1) to collect data on blood pressure measurements in the community; (2) to provide educational information for the screened population; and (3) to screen the population of south-central Kansas for undetected hypertension. The project began in March 1974, and as of May 1, 1976, a total of 60,896 individuals, with complete data, had been screened. The followup portion of this project is emphasized in this paper.

Methods

Free blood pressure checks are offered to the public through a mobile screening unit. Individuals complete a registration form upon entering the unit, listing their name, age, history of high blood pressure, and name of their physician. After a five-minute waiting period, arterial blood pressure in the left arm is measured by a wall mounted sphygmomanometer and by an electronic *Infrasond* sphygmomanometer.

Elevated blood pressure is defined according to the age of the individual as follows: ages 15-39 years, greater than 145 systolic/90 diastolic; ages 40-64, greater than 160 systolic/95 diastolic; ages 64 and above, greater than 170 systolic/95 diastolic.

Each individual is given a card listing his blood pressure reading and is told whether the reading is normal, borderline, or elevated. Those with an elevated reading are advised to see their physician for further evaluation. After a period of not later than six weeks, each individual with an elevated reading is sent a personalized letter emphasizing the dangers of uncontrolled hypertension and reiterating the need for complete evaluation by their physician.

After a minimum of six weeks, a questionnaire is sent to every Wichita physician listed as the physician for those individuals found with an elevated reading. Physicians are asked to note whether or not that person has been seen in the office since the date of the screening. Recently, a separate questionnaire has been sent to participating faculty members in the department of family and community medicine. This questionnaire solicits such information as the length of care of the individual, the length of specific treatment, and the physician's perspective of the patient's compliance with the regimen of control.

Survey results of a hypertension screening and awareness project in south-central Kansas are presented.

Discussion

By May 1, 1976, of the 60,896 individuals screened in Wichita and south-central Kansas, a total of 9,020 individuals (14.8%) were found to have elevated blood pressure reading. Of those with an elevated reading, 2,686 (30%) were currently under medication, 3,117 (35%) had a history of hypertension but were not currently under medication, and 3,217 (35%) presented no history of high blood pressure. These findings differ significantly from the nationally reported statistics.[3, 4]

Followup data from Wichita physicians is available on 2,148 individuals found with an elevated reading. Of these, 33 per cent were on medication, 35 per cent presented with a history, and 32 per cent were previously undetected. Reports returned from participating physicians indicated that overall, 63 per cent of the patients had been seen by the physician after the screening. The purpose of this project was only to refer individuals to their physician, and not to interfere with the doctor-patient relationship.

Further analysis of this followup data indicates a much lower success rate among previously undetected individuals. For those, only 58 per cent had been seen

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TABLE I

	On Medication	*Presenting With History*	*No History*	*Total*
Seen	496 (70%)	464 (62%)	400 (58%)	1,360 (63%)
Not seen	211 (30%)	286 (38%)	291 (42%)	788 (37%)
Total with elevated reading	707	750	691	2,148

by responding physicians. Individuals on medication were the easiest to encourage to visit their physician, and 70 per cent had been seen since the time of the screening. Obviously, motivation is a major problem with cases of undetected hypertension.

A more detailed followup investigation has been initiated in cooperation with faculty members of the department of family and community medicine recently. This survey has only begun, therefore, the results are small and the findings are preliminary. Results are complete on 127 patients, who were found with an elevated blood pressure reading. Of these, 35 per cent were on medication, 32 per cent with a history, and 31 per cent were previously undetected. Those percentages are similar to the overall findings of the previous survey.

Of those individuals with no previous history of hypertension (42), 25 (60%) had been placed on medication since the time of their initial screening for control of high blood pressure. There were 5 (12%) who had not been seen; 10 (24%) who had been seen but not diagnosed as hypertensive; and 2 (4%) were told of their high blood pressure but not placed on medication. Therefore, preliminary results are a positive indication with reference to previously undetected hypertensives. Other screening programs have reported similar successes.[5]

The survey has indicated, however, that 67 per cent of those individuals found with an elevated blood pressure reading either were taking medication for their blood pressure, or had a history of hypertension but were not then taking their medication. Physicians responding have generally indicated that they are aware of those patients' poor compliance and could predict an elevated blood pressure reading.

Summary

Followup data on 9,020 individuals found with an elevated blood pressure reading, of a total of 60,896 individuals screened in south-central Kansas, indicates that only 35 per cent were previously undetected hypertensives. The majority (65%) of those individuals with elevated readings either were being treated by medication or at least were aware of their hypertension. Therefore, patient compliance with regimens of control needs detailed investigation.

Initial survey results of faculty members of the department of family and community medicine indicated their awareness of patients who have a poor compliance rate. Further analysis will follow, attempting to determine common factors among patients who do not maintain their treatment program.

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Massive Liver Hemorrhage

(Continued from page 386)

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Perinatal Care

Regionalization in Kansas

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THE JOURNAL OF THE KANSAS MEDICAL SOCIETY has published articles on the development of regionalized perinatal care in the state of Kansas for the past two years.[1,2] Reported this year are the activities of this program, specifically those of Wesley Medical Center-Wichita State University Medical School Branch Perinatal Care Program.

Howard A. Fox, M.D., Kansas University Medical Center, and Daniel K. Roberts, M.D., Ph.D., Wesley Medical Center-Wichita State University Medical School Branch, were appointed co-directors of the state perinatal program in March 1974. Funding was requested and obtained from the Kansas Regional Medical Program. For the past two years, these two tertiary centers, with the guidance and support of the state perinatal steering committee, have developed programs to meet the goals of a statewide perinatal system. The goals were to:

1. establish a transport system;
2. designate Level I and Level II centers and assist in their development;
3. develop educational programs on high risk obstetrics and neonatology;
4. provide 24-hour consultation and patient evaluation services.

Transport System

Both centers have developed ground transport units. Wesley Medical Center-WSU program began operation with a mobile perinatal intensive care unit ("Betty") designed for the transport of high risk mothers and neonates. The unit was designed as an extension of the Wesley Medical Center newborn intensive care and labor-delivery units. Funds for the transport unit were given to the medical center by a philanthropic individual. Monies from the project grant were used to secure equipment for the unit.

A team consisting of nurse practitioners (one pediatric and one obstetric), respiratory therapist and anesthetists, led by a group of dedicated private physicians, began responding to calls and transporting high risk neonates in July 1974. Obstetric capabilities became operational in January 1975, after a fetal monitor was obtained for the transport unit. A system was developed to communicate with the referring physician, hospital, and the family. Brochures were developed and sent out to hospitals and physicians, and were made available for families, explaining the purpose of the program and services available to them. Communication lines were established between the referring physicians and the physicians at Wesley Medical Center regional perinatal center. Community resources for support of the family were utilized. This support included financial, emotional, and followup assistance by the perinatal social worker. Important aspects, such as parent-child bonding, are encouraged since this is considered to be a crucial factor.

Results of a review of the third year regionalization of perinatal care in Kansas are reported as experienced by the Wichita State University Branch of KUMC.

Since over 50 per cent of the patients would face some financial crisis due to the intensive care costs, efforts were undertaken by the perinatal social worker to locate financial assistance through state and private agencies. When the patient is returned to the care of the referring physician, followup care by local visiting community health nurses is initiated by referral.

Table I shows the number of transported patients (obstetrical and neonatal) since the program began at Wesley Medical Center-WSU in July 1974.

Due to the vast referral pattern of the Wichita area and the distances involved to the western areas of the state, it was felt that air transport would reduce the time and expense of referrals from areas over 100-125 miles. Military and privately chartered aircraft were used initially. In late 1975, an arrangement was made to equip a Beechcraft Queen Air to meet the needs of perinatal transport. A charter company maintains the aircraft and provides the pilot. In the event of simultaneous referrals, mothers and neonates are occasionally

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TABLE I

PERINATAL TRANSPORTS

	Maternal		*Neonatal*		
	GROUND	AIR	GROUND	AIR	*Total*
1974	0	0	58	0	58
1975	24	2	170	14	210
1976*	23	0	99	14	136

* Through May 18, 1976.

transported by local ambulance service to Wichita or a rendezvous is arranged with our ground or air transport units.

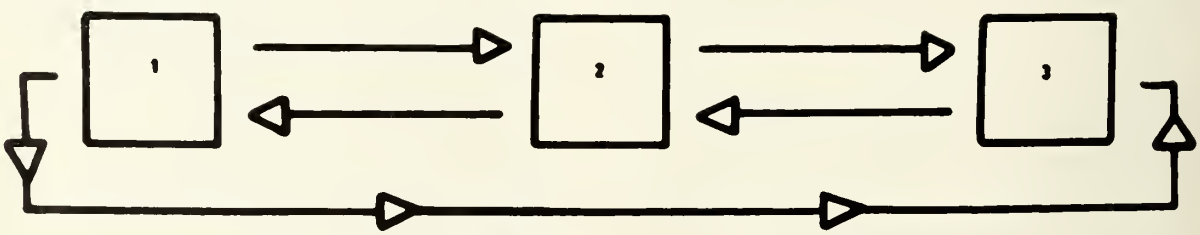
Designation of Centers

An important goal of the state program is to designate primary and secondary centers. Guidelines have been established in other states with regionalization programs. Wisconsin, Arizona, and Florida have developed highly successful programs. In October 1975, George Ryan[3] reported the recommendations from the committee on perinatal health. This committee was composed of representatives from the American Academy of Pediatrics, American College of Obstetric-Gynecology, and American Academy of Family Practice. The American Medical Association and the National Foundation for the March of Dimes assisted in this report.

The paper categorizes the requirements for personnel, facilities and equipment needed in Level I, II, and III hospitals in the regional systems. *Table II* lists these designations taken from Ryan. It is quite evident that this classification is ideal, although not necessarily practical for strict application in Kansas. With this in mind, a subcommittee from the state perinatal steering committee was appointed to review the requirements of Level I and II centers and modify the plan for Kansas.

TABLE II

CLASSIFICATION OF PERINATAL CARE LEVELS[3]



LEVEL 1 to LEVEL 2—

COMPLICATED CASES NOT REQUIRING INTENSIVE CARE

LEVEL 1 to LEVEL 3—

COMPLICATED CASES REQUIRING INTENSIVE CARE

LEVEL 1—RESPONSIBILITIES

1. Uncomplicated maternity and neonatal care for areas not served by other units.
2. Emergency management of unexpected complications.

SPECIAL SERVICES

1. Early identification of high-risk patients.
2. Preventative and social services.

LEVEL 2 to LEVEL 3—

COMPLICATED CASES REQUIRING INTENSIVE CARE: (e.g. labor less than 34 weeks gestation, severe isoimmune disease, severe medical complications, anticipated need for neonatal surgery)

LEVEL 2—RESPONSIBILITIES

1. Complete maternity and neonatal care for uncomplicated and most high-risk patients.

SPECIAL SERVICES

1. 15-minute startup time for cesearean section.
2. 24-hour in-house anesthesia for obstetrics.
3. Short-term assisted ventilation of newborn.
4. 24-hour clinical laboratory services.
5. 24-hour radiology services.
6. 24-hour Blood Bank services.
7. Fetal monitoring.
8. Special Care Nursery.

LEVEL 3 or LEVEL 2 to HOSPITAL OF ORIGIN—

FOR GROWTH AND DEVELOPMENT OF INFANTS NO LONGER REQUIRING INTENSIVE CARE

LEVEL 3—RESPONSIBILITIES

1. Complete maternity and neonatal care plus intensive care of intrapartum and neonatal high-risk patients.

SPECIAL SERVICES

1. 24-hour consultation service for region.
2. Coordination of transport system.
3. Development and coordination of educational program for region.
4. Data analysis for region.

TABLE III
LEVEL II PERINATAL CENTERS
DEVELOPING AND OPERATING

Topeka
Manhattan
Hays
Fort Scott
Emporia
Hutchinson
Salina

Table III lists the currently designated Level II care areas. It should be noted that the west and southwest areas of the state do not as yet have a Level II facility designated. Those now designated have expressed a desire to develop Level II capabilities in the state system, and to participate in the state steering committee.

We have had good response from physicians of the Level I areas. Consultative telephone conversations with these physicians have increased from 709 in 1974-1975, to 453 for the first four months of 1976. There has been a transition in the nature of these consultation calls; we are now receiving an increasing number of calls regarding the high risk obstetric patient.

Part of the Level III responsibility has been to develop 24-hour consultation and high risk OB evaluation service. Both regional centers have these capabilities. This service has been supportive of the primary care physician and is beneficial to the patient being evaluated.

Education Outreach

With the transport system well established, primary emphasis shifted to the educational programs. Postgraduate education from the Wesley Medical Center-WSU Branch for nurses has consisted of two types of programs designed to aid in updating standards of maternal and newborn care in Kansas.

The first is a continuation of perinatal care classes for nurses, which have been on-going during the past two years. Nurses from various Kansas communities visit the tertiary center for one week of didactic and one week of clinical experience.

The second type of program is directed toward developing and operating secondary level care facilities. Ob-gyn and pediatric nurse practitioners from the tertiary center visit the secondary level facility and provide the didactic program similar to that presented in classes at the tertiary center. This program utilizes local physicians for lectures and has an additional benefit of exposing tertiary level personnel to the needs and problems of the secondary level center. Following the didactic program, key nurses from the secondary center visit the tertiary center for clinical experience. At a later date, the nurse practitioners re-visit the secondary center to assess what impact these classes may have had on maternal and newborn care in the particular institution.

Three additional postgraduate educational programs have been presented this year: (1) A seminar on reproductive care, held February 3-5, featured Drs. Edward Hon and Steve Gabbe, University of Southern California, attracted 325 physicians and nurses from the Midwest and South; (2) A workshop on fetal monitoring for nurses was held May 13-14 at Wesley Medical Center. The speaker was Connie Evans, R.N., perinatal nurse specialist with Corometrics Medical Systems, Inc. The program was attended by 146 nurses from throughout the state; (3) A seminar on respiratory care of the newborn was held at Wesley Medical Center July 8-9. This program was the first of its kind to assist the Level I and II centers to present an update for respiratory therapists to enable them to participate in the care of the neonate. The Wesley Medical Center-WSU Branch team utilizes respiratory therapists in this important area of neonatal care. Five members of the team have participated in a genetics seminar sponsored by the March of Dimes and directed by Vernon James, M.D., who has been guiding the high risk followup program at the Wichita center.

Evaluation Systems

The effect of regional perinatal programs has been to reduce the perinatal mortality and morbidity in the regions served. To be able to more accurately assess the outcome of various modalities of therapy utilized in perinatal medicine today, followup evaluation is essential. To ensure the program in Kansas demonstrates benefits, a system of data collection and a high risk followup clinic have been developed.

In January 1976, a data system for the neonate, designed at KUMC, was initiated. This utilizes a keysort system, a simplified method of storing and retrieving pertinent data obtained during the patient's hospital course. This method will be reevaluated after a six-month period. An obstetrical data system, designed at the Wichita center and submitted to the Kansas University Medical Center perinatal staff for review, will soon be finalized and initiated. This evaluation method also utilizes a keysort system.

The significance of utilizing these systems lies in the potential to correlate the maternal and neonatal course with the individual's future development. At Wesley

Medical Center, parents are asked to bring their infants to the high risk followup clinic three times during the first year of life. Such factors as time and distance, the economics involved, and patient condition are taken into consideration before these requests are made. Should three visits a year be unfeasible for the family, alternate arrangements are made.

The goals and objectives of the followup clinic are to provide the primary physician with information which will assist him in caring for his high risk patient; to detect the variations of growth and development which may be detrimental; to offer recommendations in the care and treatment of these variations; to collect and record data in a retrievable manner; to correlate the complications and management of pregnancy, delivery and neonatal problems with the variations in growth, development and general health status; to increase the knowledge of the health care team regarding the high risk infant, and to inform the parents regarding their infant's particular growth and development.

To reach these goals and objectives, an interval history is elicited and recorded on a check list form during the clinic visit. Subjective findings include an interval medical history, sleeping, feeding, elimination, behavioral and social history. Objective findings include a complete physical and neuro-developmental examination. The parents are apprised of the findings and are encouraged to discuss the findings, therapy—if indicated, and followup with the infant's physician. A summary sheet, which includes problem identification and recommendation along with the growth graph and Denver Developmental Screening Test, are forwarded to the infant's physician.

Summary

Regional perinatal program has shown significant effect on the neonatal mortality rate during the past two years. *Table IV* shows a drop in neonatal mortality from 11.0 to 8.8. The data was released by the State Bureau of Registration and Health Statistics, and presented by Howard A. Fox, M.D., at the State Perinatal Steering Committee Meeting. July 1976 marks the second anniversary for this program, and the end of the Kansas Regional Medical Program grant. Continued support for this program has been obtained from the State of Kansas, and the participating tertiary care centers.

Acknowledgment

Carolyn Lohmann, R.N., Linda Abernathy, R.N., and Maureen Clark assisted with the assembling of data and preparation of this paper.

TABLE IV
NEONATAL MORTALITY

	Live Births	*Neonatal Deaths*	*Neonatal Death Rate**
1965	39,178	600	15.3
1970	38,215	524	13.7
1971	36,006	533	15.4
1972	33,176	441	13.3
1973	31,972	374	11.7
1974	32,712	359	11.0
1975	32,294	283	8.8

* Provisional.

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The Dean's Letter

(Continued from page 377)

professional students in a controlled patient care environment.

All of these activities represent efforts to plan for and develop an effective medical education and controlled health service system. We are quickly off the starting line, but have hard distance ahead. Our state legislature has provided the impetus and the resources for such a program. For it to be continually successful, it must meet the needs of the citizens of Kansas who pay for it. At the same time, it must utilize resources and coordinate the efforts of numerous agencies and personnel. All of this must have at its source the essential ability of physician-teachers to exemplify qualities of mind and emotion that will sustain future physician's confrontations with complexity.

Alcohol Rehabilitation

The VA Wichita Outpatient and Aftercare Effort

RONALD G. RICE, Ph.D., GROVER S. GRIMES *and*
CARMEN R. DRUMMOND, M.D., *Wichita*

ALL VETERANS admitted with an alcohol problem during the 12-month period beginning February 1975, were contacted for this study. Based on total admissions during the period, over 12 per cent of admitted veterans had a significant drinking problem. A count of patients with primary or secondary diagnosis of alcoholism during 1974 and 1975, by the Medical Administration Service, was used to calculate a rate of 10 per cent of all admissions as having a significant problem. Primary and secondary diagnosis each accounted for 50 per cent of these admissions. We contacted 404 alcohol admissions during a 12-month period. The Medical Administration Service tabulated 657 admissions in a 24-month period, or 328 annually. We contacted an estimated 23 per cent additional alcoholics over the number reported in the medical records. Significance throughout this study refers to Chi square tests of frequency distributions that fall beyond the .01 level.

All patients were contacted who had admitting diagnosis of cirrhosis, convulsive seizures, alcoholic gastritis, impending delerium tremens, bleeding ulcers, ulcerative colitis, acute and chronic alcoholism, pneumonia, depression, pancreatitis, malnutrition, and sometimes "chest pains." However, additional referrals were received from nurses and physicians who suspected an alcohol problem based on admitting interviews. These additional referrals would account for the nonreported alcoholics.

Age distribution of the two surveys does not differ significantly, and follows the general World War II hospitalized population.[1] Both surveys found a mean age of 53 years. Age follows a systemetrical distribution, with the interquartile range (middlemost 50% of veterans) falling in the 47-59 age group. The Medical Administration Service found the average stay for alcoholics to be 13.82 days. Stay for primary and secondary diagnosis of alcoholism, however, differed (10.7 and 16.5 days respectively). This difference suggests that the acutely intoxicated veteran without medical complications stays a shorter period of time. If they do not want treatment, veterans are now routinely discharged in 3-5 days.

For the period of admissions covered by this study, 58 of the total 404 veterans were admitted a total of 149 times. In other words, 37 per cent of all admissions account for 14 per cent of all veterans. In actual numbers, only 313 alcoholics were admitted to the hospital. Assuming no readmissions by nonalcoholics, 9.5 per cent of the hospitalized veterans have a drinking problem. The V.A. census nationwide notes an increase in number of alcoholic discharges (6.5% in 1971 to 8% in 1973 for general medical and surgical hospitals).[2] If this trend continued, their rate would be consistent with the findings of this study. Of greater interest is that about two-thirds (63%) of alcoholic admissions may be first admissions. This suggests a need for a strong outpatient and aftercare program.

Daily tracting of patients with alcohol related problems for the past year has provided an opportunity to accurately assess the extent of the problem at the V.A. Wichita. It has additionally provided an opportunity to assess current effectiveness in rehabilitating alcoholics. Of special interest is the percentage of vetcrans who have a drinking problem, how many are repeat admissions, and how many accept successful referral for rehabilitation.

The statistics thus far presented provide some descriptive parameters of the alcoholic population at the V.A. Wichita. Of additional interest is a consideration of the stability of these parameters for planning and evaluating the effectiveness of current efforts; specifically, how many veterans accept treatment and what per cent of these have been successful in remaining sober. Also considered was whether or not those veterans accepting treatment differed in a measurable respect from those who declined referral for treatment, or from those who were readmitted for their drinking

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problems.

A total of 31 per cent alcoholic veterans contacted accepted referral for treatment; 48 per cent of these were sober at last contact. This percentage is within the average range for psychologically oriented rehabilitation programs, but is well above the mean of 31.9 per cent reported by Emrick[3] for 113 studies conducted between 1952 and 1971.

It is noteworthy that veterans not accepting referral did not significantly differ in terms of age from those who did. Although veterans declining referral tended to stay in the hospital fewer days, the difference was not significant. Finally, the number of alcoholic admissions per month (mean: 34) was found to vary with total monthly admissions. There is no set trend, for example, to have more veterans with alcohol problems to come in during the winter months.

Sobriety in this study varies anywhere from a few weeks to about ten months. Keeping this in mind, 15 per cent of all hospitalized veterans in the study are sober at this time. Only 6 per cent of those referred are still known to be drinking, compared with 19 per cent of the nonreferred group. The national average for most treatment centers in our experience is about 10 per cent with followup and aftercare. Alcoholics Anonymous aftercare experience 20 per cent success. The 15-per cent rate for V.A. Wichita compares favorably.

The V.A. hospital census nationwide estimates that 15 per cent of all veterans have an alcoholic or serious drinking problem; for World War II veterans alone the estimated rate is 25 per cent.[4] These estimates are somewhat higher than found in our study.

The census data also suggest that 17 per cent of World War II veterans are rehabilitatable, compared with a 15 per cent rate in our study. Their data suggest that the Vietnam era veterans rate is still higher (26%). Contradiction with the present study exists because the census data suggest that age is inversely correlated with potential for rehabilitation.[5] Our data indicate no significant difference in the ages of those accepting referral. Actually, their statement, as well as all rehabilitation estimates, is based on the opinion of staff physicians rather than on the actual outcome. Percentages, therefore, represent an analysis of opinion rather than a statement of fact. As the census report notes, 40 per cent of the veterans were classified as "unknown" with respect to rehabilitation potential. The authors have experienced that the older alcoholic veterans have often lost employment, health, family, or have developed emotional problems. Consequently, they can frequently relate better and be more receptive to rehabilitation. The younger veterans, by effectively rationalizing the consequences of drinking, have more difficulty in accepting treatment.

In a similar vein, when considering the repeat admissions, the alcoholic veteran is not unique. Of readmitted veterans with drinking problems, about two-thirds were admitted only a second time during the 12-month period. This trend held up when only veterans who were admitted during the first three months were considered as a subsample of all readmitted veterans. The average time between each admission was four months. There is no difference in number of months between readmission for those who had three or more readmissions, and those who had only a second readmission.

The sobriety rate for veterans in the repeat admissions category was 18 per cent. Most of the sober veterans had more than two alcoholic readmissions within the 12-month period before they accepted treatment. This 18 per cent rate is not significantly different from the 15 per cent rate for all veterans of the study. The above finding reinforces the previous conclusion that followup or aftercare is probably the key to success in achieving eventual sobriety, and neither the recency of onset nor the number of admissions is a significant variable in the efficiency of rehabilitation.

Alcoholics with multiple admissions do not differ significantly from first admissions in terms of age, days hospitalized, time of year hospitalized, rate of referral, or rate of sobriety. Similarly, the alcoholic hospital population follows the general hospital population on all variables studied. From these conclusions, it is possible to evaluate resources and project treatment needs.

Most of the veterans referred for treatment are being followed in groups (54%). Only 21 per cent of these were referred to a V.A. facility for treatment. Only 4 per cent were referred for detoxification. This is a highly misleading percentage, however, because the admitting department began to make direct referrals for intoxicated veterans without referral to this study soon after the alcoholic screening program was initiated. This is especially true for the 4:30 PM to 8:00 AM shift and on weekends, when there was a greater number of veterans with alcohol problems seeking admission. The 20 per cent referral rate to inpatient treatment units, and the 54 per cent to outpatient groups obtained in this study, are more reliable estimates.

Projections

From the foregoing analysis of data, a number of parameters can be used to describe the inpatient alcoholic population. From these parameters and known hospital costs, the following projections are made:

1. The cost of alcoholism to the V.A. Wichita hospital in a year was 404 patients × 13.82 days/patient

× $108/day, or $603,000.

2. The savings based on the same patients would be 52 sober × 13.82 days × $108/day, or $78,000. Actually, savings directly to the hospital exclude the large portion of first admissions (*i.e.,* 14 persons were probably not readmitted due to efforts during the year). The direct savings becomes 14 sober × 13.82 days × $108/day, or $21,000 in direct savings. The difference ($52,000) represents savings if an outreach program could effectively eliminate hospitalization.

3. The cost of an inpatient unit of 10 psychiatric-alcohol beds would be 10 beds × 365 days × $108/day, or $394,000 annually.

4. The number of outpatients accepting treatment will be about 202 persons annually. The cost of an outpatient staff would be about $70,000. This cost approaches the estimated savings in Projection 2.

Since 50 per cent of alcoholic admissions are for a secondary diagnosis of alcoholism, it is reasonable to assume that they could be directly referred to an outpatient program. Further, since half of all V.A. admissions in 1975 were from Sedgwick County, and because alcoholic admissions follow this total inpatient population, it is reasonable to assume that about one-half of alcoholic admissions would be channeled toward such an outpatient program.

The number of alcoholics who might be referred from community agencies to a V.A. outpatient program has not been projected. Creation of an inpatient alcoholic program implies creation of a followup program. Other agencies provide most of the aftercare services that V.A. alcoholics now receive. Provided an expanded aftercare and outpatient program can be achieved, continued services from community agencies will still be needed to meet the aftercare needs of discharged alcoholic veterans.

Summary

Over 400 admitted patients of the Veterans Administration Hospital at Wichita during the 1975 period were identified as having an alcohol problem. Compared with total admissions, 10 per cent of the veterans were found to have a drinking problem. The alcoholic population resembled the general hospital population for days stayed, season of the year, and age. About one-third accepted treatment; 48 per cent of these are still sober. This effort compares very favorably with the rehabilitation effort nationally. The multiple-admissions alcoholic responded similarly to the first-admission alcoholic, both in rate of referral for treatment and in rate of sobriety achieved. The cost of medical treatment for alcoholism and related disorders for the year was projected to be $0.6 million. An aftercare and outpatient program was found to be both socially and economically feasible.

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Pseudo-Obstruction of Colon

(Continued from page 388)

presented. Resolution of the pseudo-obstruction in this patient occurred after a therapeutic paracentesis. Although a cause and effect relationship is speculative, a paracentesis appears to be a useful procedure in similar patients before resorting to surgery.

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Case Reports

MEIGS' SYNDROME

Ovarian fibroma, associated with ascites, hydrothorax, and with disappearance of the peritoneal and pleural transudate after removal of fibroma, was first noted by Meigs in 1934. Later, Meigs and Cass reported seven cases with such a triad of manifestations. Since 1937, many cases have been reported, mostly by gynecologists.

The following case is reported because it has many unusual features not noted before, which may be helpful, since the exact cause of Meigs's syndrome is unknown.

A 62-year-old female was first admitted to the hospital for shortness of breath, which had been insidiously developing for the past four years. Recently, she also noticed some difficulty in urinating.

She started menstruation at age 14, and developed facial hair at age 16, which became profuse at age 18. Her mother also had facial hair. Her menstrual periods were normal (7/30). The patient married at age 46. She stopped menstruating at age 50.

On examination, the patient was nervous, excitable, slightly breathless, with marked hirsutism. Further physical examination also revealed dullness on percussion of the right side of the chest; respiratory rate, 24/min; diminishing breath sounds, no crepitation or rhonchus; apex beat displaced to the left; trachea displaced toward the left; pulse rate, 100/min; blood pressure, 160/100mm Hg. A hard mass in the lower abdomen rose from the pelvis, reaching midway between umbilicus and symphysis pubis, which was central in position, and had a cystic swelling behind it. Further examination revealed hard mass, fixed and irregular. No fluid thrill or shifting dullness could be elicited. The liver, spleen, and kidneys were not palpable. Chest x-ray showed right pleural effusion with displaced trachea and apex beat to the left. Plain x-ray of the abdomen showed a rounded mass filling the pelvis and reaching a level between umbilicus and symphysis pubis.

On September 16, 2,500 cc of clear, straw-colored fluid was aspirated from the pleural cavity. The patient felt better, but her chest x-ray still showed a fluid level on the right side. On September 25, the x-ray showed the fluid had collected to the original level. Again, on September 28 and October 13, 1,200 cc of fluid from the pleural cavity was aspirated, and on October 15, 2,500 cc. There was no fluid in the chest. The patient's pleural fluid contained few RBC, few lymphocytes, but numerous, large mononuclear cells, which were considered not quite typical of a bacterial effusion. On September 18, the protein in pleural fluid was estimated as 5.1 gm/100ml; and 6.4 gm/100 ml on October 18. The results of cultures for organisms were negative.

With the patient under general anesthesia, a left oophorectomy was performed. The surgeon's report read as follows:

"Tumor resembled brain tissue in appearance. It was hard, not pliable. Some adhesions of small bowel and caecum were separated and divided. Blind digital dissection freed the mass from floor of the pelvis more easily than expected. Moderate oozing was controlled by packing and haemostatic sponge. Uterus and right ovary appeared perfectly normal. Omentum was not adherent to tumor. No glands were felt in the paraortic region. No excess free fluid was present in the peritoneum."

The pathologist's report stated the following about the tumor: "It (the tumor) weighed 1,225 gm; it was firm with pattern on each section; in some areas it was yellowish and showed congestion; it was composed of spindle shaped cells which interlaced in broad bands; a variable amount of collagens were present; it was described as an ovarian fibroma."

The patient's postoperative period was uneventful. The x-ray on October 20 still showed fluid in the right costophrenic angle, but no fluid was seen on November 5.

This case has a few unusual characteristics, such as the quick collection of pleural fluid and absence of ascites, and double ureter and double pelvis on the right side. However, like all other cases described in literature, the pleural effusion disappeared after removal of the ovarian fibroma. The following characteristics point to this being a case of Meigs's syndrome: ovarian fibroma; pleural effusion, although no ascites; pleural effusion disappeared after removal of the tumor.

The exact mechanism of the source of fluid is not known, but it is generally believed that the fluid transudated from the surface of the tumor itself, which gives rise to ascites. This is one of the presenting symptoms in many of the cases reported. However, in our case no evidence of ascites was clinically found, and even a laparotomy failed to produce evidence of ascites. Sometimes the ascites may be negligible and may even escape notice, while pleural fluid may be present in large amounts. Experimental work showed that intraperitoneally injected material may be conveyed through centrum tendinosum diaphragmaticus, and be found both in mediastinal lymph nodes and in the thoracic duct. It was later found that the diaphragm was richly supplied by lymphatic channels. The closeness of the diaphragm to the liver on the right side and negative pressure during inspiration facilitates the lymphatic flow through the diaphragm from peritoneal to pleural cavity, and if the production of transudates from tumor and diaphragmatic resorption is at the same rate, there may be no ascites, but a big pleural effusion in the right side, was found in this case.

Quick recurrence of fluid, which was difficult to explain, was of interest in the above case. The blockade theory of Lemming might be of some help in explaining pleural effusion without ascites. Lemming, in 1959, postulated that, in Meigs's syndrome, blockade of intrathoracic lymph flow is due to a previous chronic inflammatory process, which results in the slowing of lymph flow and blocking its proper evacuation. This mechanism explains the big pleural effusion with little or no definite ascites. Positive Heaf test supports this view in this case.

The right-sided congenital anomaly of double pelvis and double ureter might be just a coincidence, or it may be in association with some other congenital abnormality in the lymphatic system of the diaphragm and thorax.

Sharfuddin Shah, M.D., Halstead

FAMILIAL RAYNAUD'S DISEASE

Four patients in three generations exhibited classical findings of Raynaud's disease (*Figure 1*). No previous family members were known to have had the disease. A is a 53-year-old woman who has symptoms involving the fingers and hands bilaterally. B is a 30-year-old woman with initial symptoms in fingers and now involving hands, feet, nose, ears, and cheeks, bilaterally. C is a 24-year-old man who has symptoms involving fingers and mild essential hypertension. D is a 4-year-old male who has symptoms involving ears (bilaterally) and (occasionally) cheeks. All fulfill the criteria of Allen and Brown, with color changes caused by exposure to cold. Symptoms are present in B and D daily during cold weather. No treatment has been instituted.

The transmission in this family is strongly suggestive of

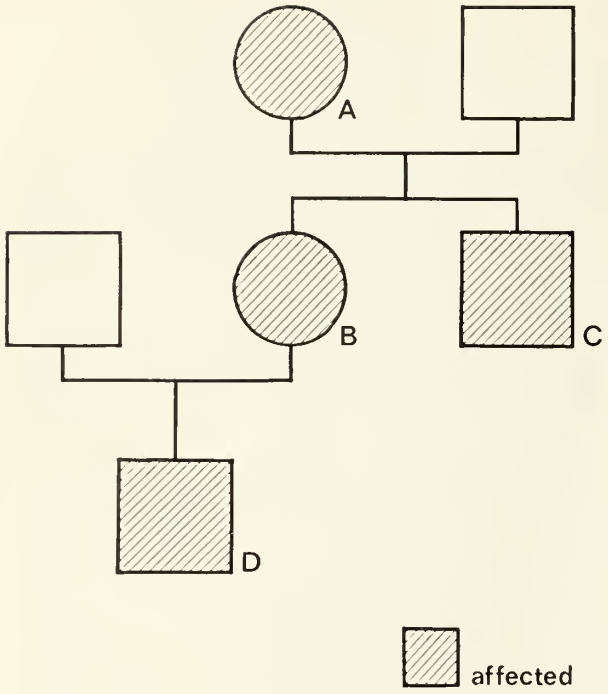


Figure 1

autosomal dominant inheritance, with spontaneous occurrence in A. These patients show no evidence that diesase is secondary to any disorder. Patients with Raynaud's disease are advised to search their family histories carefully for familial disease. This report, plus the finding in the literature of the disease present in parents and siblings, warrants further investigation.

Raynaud's disease is manifested by intermittent changes in color of parts of the body, the result of spasm of small arteries or arterioles. The color change is characteristic and the disease is usually benign. The color changes are related to the state of the affected arteries and arterioles. Occlusion produces a white color of the skin; cyanosis results when vessels are partly occluded and redness and warmth are due to reactive hyperemia. Raynaud's phenomenon is the symptom complex and occurs secondary to other illnesses, especially the collagen disorders. The diagnosis of Raynaud's disease is based on criteria determined by Allen and Brown: (1) Raynaud's phenomenon elicited by cold or emotion; (2) bilateral manifestations; (3) absence of gangrene or if present ischemic lesions are limited to small areas of cutaneous tissue; (4) exclusion of systemic disease that could cause the symptoms; (5) symptoms of two years' duration. Raynaud's disease has been reported in both adults and children, and in the families of affected patients. This report described Raynaud's disease in a family with inheritance compatible with an autosomal dominant transmission.

Ronald D. Greenwood, M.D., Boston, Massachusetts

A NEWBORN WITH URINARY TRACT MALFORMATION: EXSTROPHY OF THE BLADDER

A neonate was born with the anomaly noted in *Figure 1,* Exstrophy of the bladder is a rare anomaly, occurring from 1 in 10,000 to 40,000 births, and results from a continuation



Figure 1

of the cloacal cleft into the infra-umbilical body wall. Associated anomalies of the genitourinary system are common, and lower gastrointestinal tract and skeletal anomalies are also noted. Anomalies above the umbilicus, however, are uncommon. Untreated patients die of ascending urinary infection. Surgery now offers hope to babies born with exstrophy of the bladder, and some survivors have reached adulthood. Diagnosis is made at birth and referral to a urologist should be immediate.

Ronald D. Greenwood, M.D., Boston, Massachusetts

Emergency Medical Service

Categorization of Hospitals

Following the national awareness of the poor quality of emergency medical care, many programs and efforts were directed toward correcting the problem. Unfortunately, most programs were directed at only a portion of the problem.

In 1973, the federal Emergency Medical Care legislation was passed with a responsibility to improve the total emergency medical care throughout the country. To complete this task, the spectrum of total care was divided into 15 components. These components are:

Manpower	Accessibility to care
Training	Transfer of patients
Communications	Standard medical records
Transportation	Public education and information
Facilities categorization	Evaluation
Critical care units	Disaster linkage
Public safety agencies	Mutual aid agreements
Consumer participation	

The federal funding program is divided into three stages. The first, or planning stage, is the 1202 plan, the implementation stage is the 1203 plan, and the improvements stage is the 1204 plan. With the exception of Region 6, which is involved in the 1203 plan, all Kansas regions are involved with 1202 planning grants. In order to obtain federal funding to assist in the implementation of the current plans, certain of the above components must be established and integrated into the comprehensive Emergency Medical System plans. The two most critical components are categorization of facilities (hospitals) and transfer agreement of critical patients. Transfer agreements will be the subject of a later article.

Categorization of hospitals is a means of evaluating the present resources and capabilities of providers. Categorization is not a means of legislating who will render emergency medical care, but it is a method of letting the system know where various capabilities are available. The concept is dynamic and the initial categorization does not restrict a facility to a fixed role. As the evaluation of the emergency medical system progresses, the categorization will offer a basis for upgrading of services when these are needed.

The original categorization attempts which placed the entire hospital's capability under one heading—the so-called horizontal categorization—has proved to be a non-workable program. The current method—vertical categorization—looks at each hospital and medical staff with reference to each of the seven critical emergency patient categories: burns, head and spinal cord, trauma, poisoning drugs and alcohol, acute cardiac, high risk infant, and psychiatric.

The criteria for these seven categories are arranged in a scale of four (1 being the most sophisticated level of care, and 4 being the absence of care capabilities for that particular type of critical patient). The criteria are not meant to be guidelines for stimulation of changes in the hospitals, but are a necessary look at where we are today in the capability of rendering good emergency medical care.

The information gained from categorization of hospitals can offer a high degree of predictability of care for an emergency medical system, and can establish an avenue for continuity of critical patient care and transfer.

This is the second in a series of articles on emergency medical care prepared by Norman E. McSwain, Jr., M.D., Director, Emergency Medical Training, KUMC. This month's installment was written by William R. Truitt, M.D., Director of Emergency Medical Services, St. Francis Hospital, Topeka 66606.

CORRECTION

In our zeal to record medical history in the July issue of the JOURNAL, we were guilty of trying to make it. W. David Francisco has called our attention to the fact that in editing his account of the development of orthopedic surgery in Kansas we reported that C. L. Francisco died in 1944. He points out that C. L. has been and is, in fact, alive and well and living in Kansas City, which we accept while attempting to salvage some part of our editorial dignity by noting that we haven't heard from *him* yet. The reference was, of course, to Dr. C. B. Francisco, their esteemed father, as we presume most of our readers realized.

So, our apologies to C. L. (wherever he is) and assurance that his brother's manuscript was not at fault; apologies to W. D. for any crisis in sibling relationship we may have precipiated; congratulations to the Kansas Medical Society on regaining a valued if temporarily misplaced member;—and a pox on the chairman of the Necrology Committee for illegal recruiting.

The President's Message

During the fall, your President appreciates the opportunity to meet with as many of you as possible in a meeting of each Council District. About one-fourth of these meetings are scheduled. May we hear from the rest of you as soon as possible? This is an opportunity for your president to work with you in Society functions.

With primary elections and both political party conventions over, the time to make decisions and influence votes is at hand. Let us—each of us and our spouses—address the matter of practical politics with the seriousness it deserves. In years past, doctors have been lazy politically. With the advent of AMPAC this is changing. No one of us who fails to help elect candidates who feel as we do has a right to complain about what happens to the medical profession in the future.

Civic and legislative leaders of Kansas have joined us in our concern about availability and distribution of medical manpower in Kansas. The KMS helps by participating in the Kansas medical school admissions process as much as possible. Kansas Health Day, sponsored by KUMC and the Wichita Branch, will be held in Kansas City on September 10, and in Wichita on September 16. On these days, young physicians seeking locations and leaders from communities seeking physicians are brought together. Let us encourage and assist our community leaders in any way we can.

The legal test of the constitutionality of one of our Kansas professional liability laws (S. 646—which requires every physician in Kansas to carry professional liability insurance) seems to be in the offing. This was inevitable and was expected. Your Society will help in any way we can, because the sooner it can be accomplished, the better.



Word is received that the Kansas Foundation for Medical Care will not be designated Conditional PSRO on October 1 as expected. The ways of the Lord and the ways of bureaucrats are beyond our understanding. Personally, we'll take our chances with the ways of the Lord. (Hopefully our conditional status may be approved by January 1977.)

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

There Is No Health In Us

This is not a book review, although it is about a book. For one thing, we paid for our copy, which no self-respecting book reviewer would do. We are not suggesting everyone go to that extreme, but we are suggesting that physicians should be aware of it. The book is "Medical Nemesis," and is the latest contribution of Ivan Illich's iconoclastic pen.

The first line of his introduction sets the tone: "The medical establishment has become a major threat to health." This is the "nemesis" of which he speaks, the punishment visited on society for allowing itself to become "medicalized." The importance of the physician's awareness of this work rests on two things. First, it contains many statements of the type (as above) which commentators, particularly if they harbor some antagonism toward the medical establishment, enjoy lifting out of context or using without a balancing qualification. Attributing such words to a scholar of recognized standing lends a specious authority and veracity to the commentator's use. Illich cites virtually every social sin and professional deficiency of the physician and others in health care, and concludes that medicine's successes have actually been failures—or in truth someone else's successes.

Second, however, the book is provocative (and not just of the physician's bile) and contains some observations which the physician should find of interest (perhaps even a modicum of agreement once the medical ego is sufficiently calloused). He contends that the current process of cultural systematization which is intended to elevate and exalt the individual actually diminishes and ultimately destroys that individual in substance as well as in concept. Since no professional or social group has a better opportunity to observe the application and effect of this process than ours, we can benefit by an objective contemplation of the presentation, whether or not we choose to accept the "proof."

The book is extensively footnoted, so extensively in fact that these points of reference, source, and support probably contribute as many words to the book as the text. On the one hand, this makes virtually every sentence a substantive thought and, on the other, the frequent interruptions add to the labor of reading. While these footnotes testify to the background upon which the author has developed his ideas, one reads them with several thoughts obtruding. Unless the reader has the time and facilities to seek out each reference for verification of fact or thought, he must accept them as they are. One remembers, however, that these references are (not improperly, of course) chosen—and interpreted—to support the author's thesis. And one recognizes that many of the references, given the emphasis of fact by their quotation, are in truth opinion or conjecture, and the reader might just as reasonably reach a different conclusion from the same source. (Such a charge can, of course, be put to any such work and should give rise to somebody's law which states that the more extensive the proof, the more the matter is in doubt.) Furthermore, one is justified in thinking that a search of the literature as intent on refuting the arguments as supporting them would probably turn up a comparable group of esoteric studies, doctoral theses, and obscure observations which would support quite opposing conclusions.

Illich charges the profession with "medicalizing" society. What we had thought was our appropriate and somewhat successful function is rather the use of techniques, ever increasing in number and complexity, to identify more people as sick (or make them so by our therapies). More and more medical equipment and facilities are devised and produced to treat the identified ill (and keep them subjugated to the system). Therefore, physicians, their facilities, and their systems, motivated primarily by self (personal and corporate) promotion and perpetuation, are responsible for increasing the incidence of illness and, by extension, the modern medical system is not a success but a failure. Central to this situation and the most grievous sin of all is the degradation of the individual by the assignment to the role

of patient and removal of his opportunity for self-determination.

This "medicalization" has caused the individual to lose his capacity to tolerate any degree of suffering and expect more medical care than the profession can supply or society can support. To quote: "Medical procedures multiply disease *by moral degradation* (emphasis his) when they isolate the sick in a professional environment rather than providing society with the motives and disciplines that increase social tolerance for the troubled." Of the role of hospitals, he says, "The acute problems of manpower, money, access, and control that beset hospitals everywhere can be interpreted as symptoms of a new crisis in the concept of disease. This is a true crisis because it admits of two opposing solutions, both of which make present hospitals obsolete. The first solution is a further sickening medicalization of health care, expanding still further the clinical control of the medical profession over the ambulatory population. The second is a critical, scientifically sound demedicalization of the concept of disease."

Illich is understandably enamored of the word, "iatrogenesis," since it is tailor-made for his purpose: the disclosure of the damage done by the medical establishment in the name of service. He comments, lest the reader fail to realize it, that the word covers "not only the damage which doctors *inflict* with the intent of curing or of *exploiting* the patient, but also all those other torts that result from the doctor's attempt to protect himself against the possibility of a suit for malpractice."

In addition to cataloging the failures, errors, and self-sustaining exploits of the medical establishment which have purportedly brought the patient to this state of depersonalized impotence, he objects to having physicians be the sole arbiters in medical decisions and the sole judges of their own professional capabilities. The implication is that they have been operating in a virtual vacuum, that in some way they have been functioning independent of the other institutions—political, economic, social, professional, religious—which have shaped our society as well. We can agree to the extent of believing that if physicians claim credit for the benefits of their actions, they must also accept responsibility for the deficiencies of those actions. The question is the extent to which these two effects—the positive and the negative—have created our social milieu.

We agree that the trend in social reform has been toward the individual passing to others the responsibility for his welfare. His demands for "protection" have been satisfied at the expense of his autonomy—and perhaps this is necessary in an increasingly crowded and complex world. We agree with Illich that there seems little will or capacity for altering this trend. He calls for a return to personal responsibility for health care, which many physicians will support in theory. But where the physician translates this into individual responsibility for seeking and procuring health care, accepting and responding to the prescribed therapy, and individual responsibility for meeting the cost, Illich means establishment by the layman of control over the methods, the personnel, and the substance of health care. He calls for legislation that "would recognize each man's right to define his own health—subject only to limitations imposed by respect for his neighbor's rights." And the mechanisms for achieving this, in his interpretation, are licensing by public (not professional) action and performance of professional review by the community rather than by professional fiat. He would divert the relatively large sums of money spent to develop highly sophisticated techniques that marginally sustain a few individuals into a program of a minimal degree of training of lay persons who, by their extensive distribution, would bring to the masses a minimal but to considerable degree adequate form of medical care.

So Illich cites the deprivation—and abdication—of the individual in regard to his medical "rights" as prime factors in the current depersonalized state. He sees no hope for redemption of the individual soul without a process of "demedicalization" by those same individuals since the medical establishment cannot (and will not in self-preservation) do it.

Illich has now applied his attention to the fields of education, transportation, and medicine with the conclusion that we have survived in spite of rather than because of these institutions. There is much of interest in his book and much beyond the irritating challenges cited here. One may be impressed by the extent and erudition of his reference material but, again, one wonders whether his beliefs are the logical derivation of the social explorations and research, or whether the material is selected for its supportive value (since rarely does he refer to any differing opinions).

Anyway, try it. You may not like it but you won't forget it.—*D.E.G.*

Vox Dox

Vox Dox Editor:

I am interested in finding the incidence of allergic reactions to chocolate because of a recent query I received from a chocolate manufacturer.

I would appreciate hearing from physicians the estimated number of their patients allergic to chocolate, and the symptoms produced. I would also appreciate receiving specific case reports, results of laboratory tests, and any other comments on the subject.

Thank you very much.

Claude A. Frazier, M.D.
4-C Doctors Park
Asheville, NC 28801

Vox Dox Editor:

The 75th Anniversary edition of The Journal was a joy to read. It afforded me the opportunity to again review the professional lives of the individuals, many now deceased, who made their lasting contributions to my training as a physician. I am sure that many others in my age group feel as I do.

Although now retired, I continue to maintain a strong interest in the excellent medical journal of our state medical society.

H. H. Hesser, M.D.
7207 Edgewood Blvd.
Shawnee, KS 66203
Class of '34

Vox Dox Editor:

I want to congratulate you and the editorial board of The Journal of the Kansas Medical Society for the 75th anniversary issue.

This is a splendid issue and I, for one, am thoroughly enjoying it, and want you to know that I appreciate your considerable efforts.

Charles T. Sills, M.D.
Medical Director, Emeritus
Axtell Clinic, Newton, Kansas

Vox Dox Editor:

Let me congratulate you on the historical articles recently appearing in the *Journal*, especially the one on the Golden Belt Medical Society, of which my brother and father and I were long-time members. I could have added many things to Dr. John Porter's article, but it didn't need improvement.

Karl Menninger, M.D.
Box 829
Topeka, KS 66601

Vox Dox Editor:

The article by Dr. Orville R. Clark on the Golden Belt Medical Society brought back pleasant memories and the solution to his question: Where are the records? I have them and will take them to the Society's office.

Toward the end of the Golden Belt era, a few of us "hangers on" maintained an interest in this group as it was the only way to hear some good papers and also meet those up and down the U.P. line that we worked with but never met. Dr. Gordy Hermann brought me the material and said, "you are it."

Later, I wrote about 40 letters to members I knew, asking what they thought the fate of the Golden Belt should be. More than one half said, in effect, "it had served its purpose and with the improved economy the doctors were going to far-away places." Nothing more came of this effort, so I took it upon myself to declare this famous and historical organization dead by anemia.

When given the package of papers, etc. about 10 years ago, I wrote to all the banks mentioned. There were then and are now no funds. One would hardly expect much with dues that began with $1.00 and later were $2.00. Later they became a bit higher as demon rum entered the picture. The largest amount on hand at one point was $700.00

Although originally along the golden wheat trail of the Union Pacific R.R., an examination of the members shows the vast majority along and 50 miles either side of a line from Topeka to Hays with a scattering from more distant places. The younger the organization the more from far out in the state.

The oldest record of dues I could find was 1911, with 335 members from that point. It appears that at one time almost every physician in the major area was a member. An interesting feature is that the constitution and by-laws was *revised* in April 1898.

William B. Triplett, M.D.
1001 Mulvane
Topeka, KS 66604

KMS Obituaries

CLAUDE D. BONHAM, M.D.

Dr. Claude D. Bonham, 75, died May 9, 1976, in Topeka. He was born November 12, 1900, in King City, Missouri.

Dr. Bonham was graduated from the University of Colorado School of Medicine in 1927. He practiced medicine in Colorado until 1969, when he moved to Topeka to be a medical advisor for Blue Cross-Blue Shield.

His wife and a son survive.

WENDELL A. GROSJEAN, M.D.

Dr. Wendell A. Grosjean, of Winfield, died June 1, 1976, in St. Louis, Missouri. He was born February 27, 1906, in Scott City.

Dr. Grosjean was graduated from the University of Kansas School of Medicine in 1931. He was associated with the Snyder Clinic in Winfield since 1940. He collaborated with Dr. Papanicalaou in the development of Pap smear.

Survivors include two daughters. A memorial fund has been established in his name with the KU Endowment Association.

HAROLD V. HOLTER, M.D.

Dr. Harold V. Holter, 73, died June 22, 1976, in Kansas City. He was born September 4, 1902, in Lincoln.

Dr. Holter was graduated from Northwestern University School of Medicine in 1928. He has lived and practiced medicine in the Kansas City area for more than 45 years.

Surviving Dr. Holter are his wife and two daughters. A memorial fund has been established in his name with the Bethany Medical Center and the Providence Hospital.

DEAN BROWNFIELD PARKER, M.D.

Dr. Dean B. Parker died May 10, 1976, in Ness City, at the age of 71. He was born October 26, 1904, in Otterville, Missouri.

Dr. Parker was graduated from the University of Kansas School of Medicine in 1929. He served as physician and surgeon to the Ness County community since 1930.

His wife, two daughters, and a son survive.

ARTHUR L. PETTIS, M.D.

Dr. Arthur L. Pettis, El Dorado, died April 11, 1976, at the age of 89. He was born on September 11, 1886, in St. Joseph, Missouri.

Dr. Pettis was graduated from the Kansas Medical College of Topeka in 1903. He practiced medicine in El Dorado from 1936 until his retirement in 1963.

Survivors include a son and daughter. Memorial contributions may be made to the First United Methodist Church of El Dorado.

S. V. VAIDYNATHAN, M.D.

Dr. S. V. Vaidynathan, of Winfield, died May 9, 1976, at the age of 46. He was born in Madras, India, on January 16, 1930.

Dr. Vaidynathan received his medical degree in 1959, from Madras Medical College. He practiced medicine in Winfield.

His wife and two children survive.

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General Practitioner needed for an attractive rural community 35 miles from Wichita; 18 miles from new 200-bed hospital. Established practice with fully equipped clinic and nurse clinician. Call collect: (316) 465-3639/3390, Haven, Kansas.

PEDIATRICIAN seeking position in Kansas community. FLEX licensed, county trained, 6 years experience in pediatrics, 1 year experience in pediatric hematology and oncology, 30 years old, available in July 1976. Prefer community type practice, but will consider all areas. Contact: S. R. Ravi, M.D., 21 Manor Ave., #32, Hempstead, NY 11550.

PRIMARY CARE and SURGICAL SPECIALISTS seeking practice opportunities in small towns, rural areas, or joint urban practices that utilize a wide area medical practice concept. New private initiative in rural health services. Individual physicians, groups, hospitals or communities invited to inquire: Dr. Ronald L. Hammerle, Director, Health Resources, Ltd., Box 12621, N. Kansas City, MO 64116.

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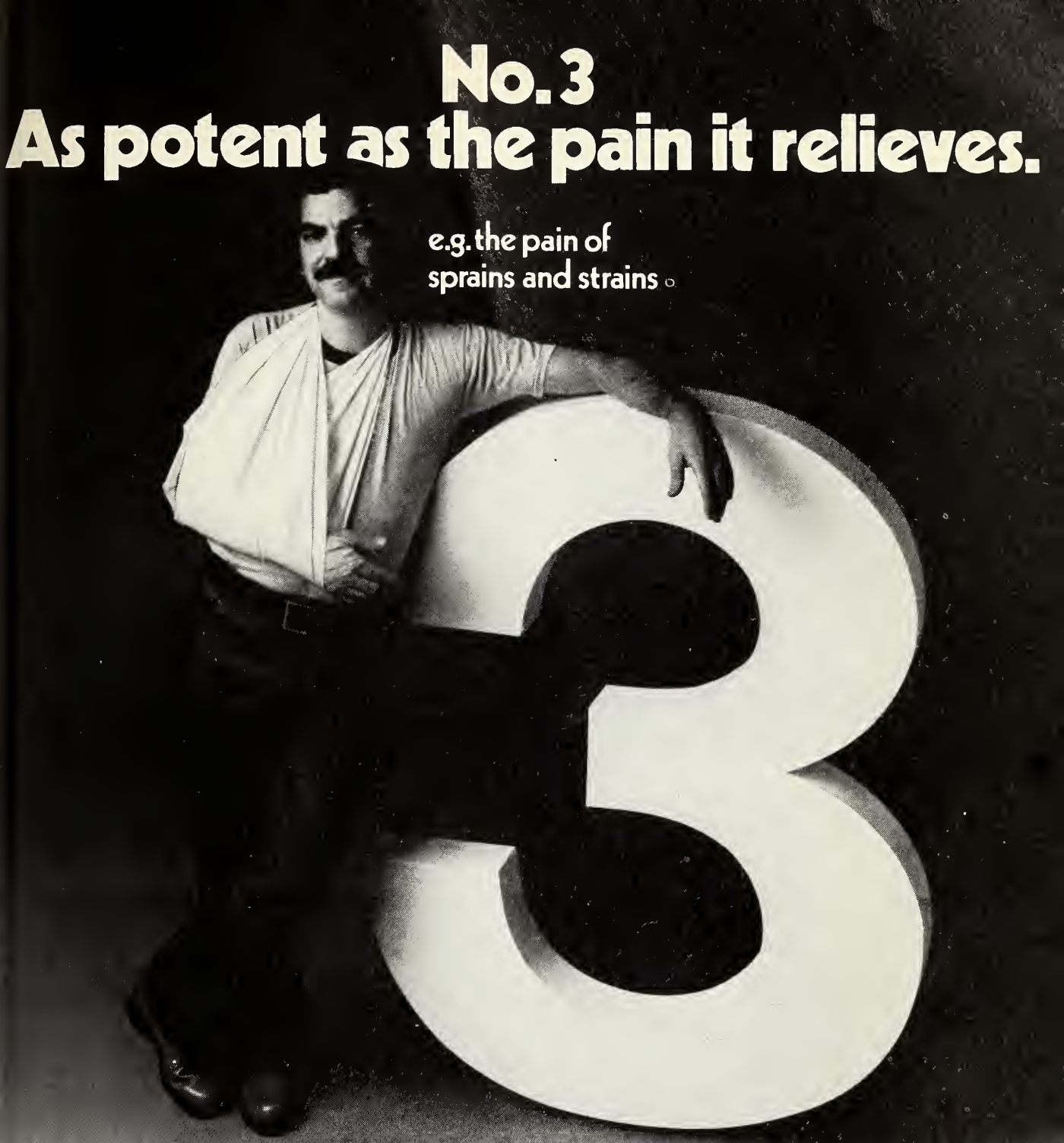
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1. Stock, J. M., Surks, M. I., and Oppenheimer, J. H. Replacement dosage of L-thyroxine in hypothyroidism. A re-evaluation. New Engl. J. Med. 290:529-33, 1974.

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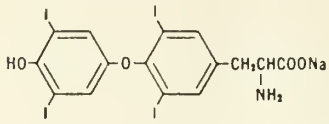
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Sodium Levothyroxine

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Both SYNTHROID products will provide L-thyroxine as a substrate for physiologic deiodination to L-triiodothyronine. Therefore, patients taking SYNTHROID products will demonstrate normal blood levels of L-triiodothyronine even when the thyroid gland has been surgically removed or destroyed by radioiodine. Administration of levothyroxine alone will result in complete physiologic thyroid replacement.

Indications: SYNTHROID (sodium levothyroxine) products serve as specific replacement therapy for reduced or absent thyroid function of any etiology. SYNTHROID **Injection** can be used intravenously whenever a rapid onset of effect is critical, and either intravenously or intramuscularly in hypothyroid patients whenever the oral route is precluded for long periods of time.

Contraindications: There are no absolute contraindications to SYNTHROID (sodium levothyroxine) therapy. Relative contraindications include acute myocardial infarction, uncorrected adrenal insufficiency and thyrotoxicosis. (See WARNINGS)

Warnings: Patients with cardiovascular diseases warrant particularly close attention during the restoration of normal thyroid function by any thyroid drug. In such cases, low initial dosage increased slowly by small increments is indicated. Occasionally, the cardiovascular capacity of the patient is so compromised that the metabolic demands of the normal thyroid state cannot be met. Clinical judgment will then dictate either a less-than-complete restoration of thyroid status or reduction in thyroid dosage.

Endocrine disorders such as diabetes mellitus, adrenal insufficiency (Addison's disease), hypopituitarism and diabetes insipidus are characterized by signs and symptoms which may be diminished in severity or obscured by hypothyroidism. SYNTHROID (sodium levothyroxine) therapy for such patients may aggravate the intensity of previously obscured symptoms and require appropriate adjustment of therapeutic measures directed at these concomitant disorders.

Thyroid replacement may potentiate the effects of anticoagulants. Patients on anticoagulant therapy should have frequent prothrombin determinations when instituting thyroid replacement to gauge the need to reduce anticoagulant dosage.

Precautions: Overdosage with any thyroid drug may produce the signs and symptoms of thyrotoxicosis, but resistance to such factitious thyrotoxicosis is the general rule. With SYNTHROID (sodium levothyroxine) **Tablets,** the relatively slow onset of action minimizes the risk of overdose but close observation in the weeks following institution of a dosage regimen is advised. Treatment of thyroid hyperactivity induced by oral medication is confined to interruption of therapy for a week, followed by reinstitution of daily therapy at an appropriately reduced dosage.

Adverse reactions: Adverse reactions are due to overdose and are those of induced hyperthyroidism.

Dosage and administration: For most adults, a final dosage of 100 mcg (0.1 mg) to 200 mcg (0.2 mg) of SYNTHROID (sodium levothyroxine) **Tablets** daily will restore normal thyroid function and only occasionally will patients require larger doses. Failure to respond adequately to a daily oral intake of 400 mcg (0.4 mg) or more is rare and should prompt reconsideration of the diagnosis of hypothyroidism, special investigation of the patient in terms of malabsorption of L-thyroxine from the gastrointestinal tract or poor adherence to therapy.

The concomitant appearance of other diseases, especially cardiovascular diseases, usually dictates a replacement regimen with initial doses smaller than 100 mcg/day (0.1 mg).

In otherwise healthy adults with relatively recent onset of hypothyroidism, full replacement dose of 150 mcg (0.15 mg) or 200 mcg (0.2 mg) has been instituted immediately without untoward effect and with good therapeutic response. General experience, however, favors a more cautious approach in view of the possible presence of subclinical disorders of the cardiovascular system or endocrinopathies.

The age and general physical condition of the patient as well as the severity and duration of hypothyroid symptoms determine the starting dosage and the rate of incremental dosage increase leading to a final maintenance dosage. In the elderly patient with long standing disease, evidence of myxedematous infiltration and symptomatic, functional or electrocardiographic evidence of cardiovascular dysfunction, the starting dose may be as little as 25 mcg (0.025 mg) per day. Further incremental increases of 25 mcg (0.025 mg) per day may be instituted at three to four week intervals depending on patient response. Conversely, otherwise healthy adults may be started at higher daily dosage and raised to the full replacement dosage in two to three weeks. Clearly it is the physician's judgment of the severity of the disease and close observation of patient response which determines the rate of dosage titration.

Laboratory tests to monitor thyroid replacement therapy are of limited value. Although measurement of normal blood levels of thyroxine in patients on replacement regimens frequently coincides with the clinical impression of normal thyroid status, higher than normal levels on oral replacement of levothyroxine occasionally occur and should not be considered evidence of overdosage per se.

In all cases, clinical impression of the well-being of the patient takes precedence over laboratory determination in determining the appropriate individual dosage.

In infants and children, there is a great urgency to achieve full thyroid replacement because of the critical importance of thyroid hormone in sustaining growth and maturation. Despite the smaller body size, the dosage needed to sustain a full rate of growth, development and general thriving is higher in the child than in the adult, as much as 300 mcg (0.3 mg) to 400 mcg (0.4 mg) per day.

In myxedema coma or stupor, without concomitant severe heart disease, 200 to 500 mcg of SYNTHROID **Injection** may be administered intravenously as a solution containing 100 mcg/ml. Although the patient may show evidence of increased responsivity within six to eight hours, full therapeutic effect may not be evident until the following day. An additional 100 to 300 mcg or more may be given on the second day if evidence of significant and progressive improvement has not occurred. Like the oral dosage form, SYNTHROID **Injection** produces a predictable increase in the circulating level of hormone with a long half-time. This usually precludes the need for multiple injections but continued daily administration of lesser amounts intravenously should be maintained until the patient is fully capable of accepting a daily oral dose.

In the presence of concomitant heart disease, the sudden administration of such large doses of L-thyroxine intravenously is clearly not without its cardiovascular risks. Under such circumstances, intravenous therapy should not be undertaken without weighing the alternative risks of the myxedema coma and the cardiovascular disease. Clinical judgment in this situation may dictate smaller intravenous doses of levothyroxine.

SYNTHROID **Injection** by intravenous or intramuscular routes can be substituted for the oral dosage form when ingestion of SYNTHROID **Tablets** is precluded for long periods of time.

How Supplied: SYNTHROID (sodium levothyroxine) **Tablets** are supplied as scored, color-coded compressed tablets in 6 concentrations: 25 mcg (0.025 mg)—orange . . . 50 mcg (0.05 mg)—white . . . 100 mcg (0.1 mg)—yellow . . . 150 mcg (0.15 mg)—blue . . . 200 mcg (0.2 mg)—pink . . . 300 mcg (0.3 mg)—green.

SYNTHROID (sodium levothyroxine) for **Injection** is supplied in 10 ml vials containing 500 mcg of lyophilized active ingredient and 10 mg of Mannitol, U.S.P. A separate 5 ml vial containing Sodium Chloride Injection, U.S.P. is provided as a diluent.

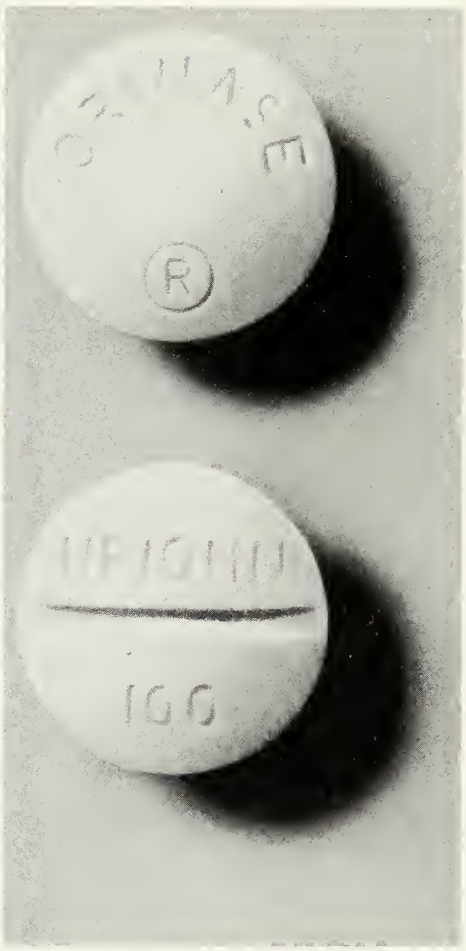
Directions for reconstitution: Reconstitute the lyophilized sodium levothyroxine by aseptically adding 5 ml of the Sodium Chloride Injection, U.S.P. to the vial. Shake vial to insure complete mixing. **Use immediately** after reconstitution. Discard any unused portion.

U.S. Pat. 2,889,363

January 1975

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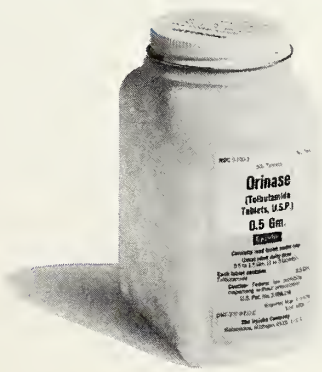
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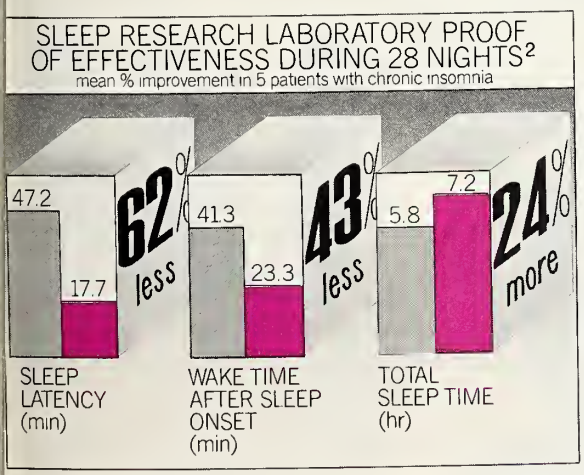

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Continued relief of insomnia in patients with chronic insomnia

Since insomnia is often transient and intermittent, the prolonged administration of a hypnotic is generally not necessary or recommended. But when insomnia is a chronic or recurring problem, continued effectiveness is as important as initial effectiveness. Results of a recently published sleep research laboratory study[1] demonstrated that, while pentobarbital lost effectiveness within two weeks, Dalmane maintained effectiveness for 28 consecutive nights. Similar 28-night results with Dalmane, displayed below, were obtained by a second sleep research group.[2] In previous studies,[3] both chloral hydrate and glutethimide began to lose effectiveness after several nights, while Dalmane maintained effectiveness throughout the 14 medication nights. Whether the problem is difficulty falling asleep, staying asleep or sleeping long enough, consider these results when selecting a sleep medication.



Patient benefits include relative safety, infrequent morning "hang-over"

Dalmane is well tolerated, seldom causing morning drowsiness or grogginess.[4] No increase in dosage is required for continued effectiveness from night to night.[1-3] Should Dalmane be used repeatedly, periodic blood counts and liver and kidney function tests should be performed. The usual adult dose is 30 mg *h.s.*, but 15 mg may suffice for some patients and is recommended as a starting dose for the elderly and debilitated to help preclude oversedation, dizziness or ataxia.

Continued relief of insomnia: One more good reason to specify

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(flurazepam HCl)

One 30-mg capsule *h.s.*— usual adult dosage (15 mg may suffice in some patients).
One 15-mg capsule *h.s.*— initial dosage for elderly or debilitated patients.

whenever a hypnotic is needed

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Please see following page for a summary of product information.

New objective proof: continued insomnia relief without increasing dosage...[1,2]

Dalmane® (flurazepam HCl) C-IV

Objectively proved in the sleep research laboratory...

during 28 consecutive nights of administration:

- ☐ **effectiveness with a single 30-mg *h.s.* dose, maintained**
- ☐ **rapid sleep induction, maintained**
- ☐ **sleep for 7 to 8 hours, on average, maintained**
- ☐ **less time awake during the night, maintained**

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; and in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

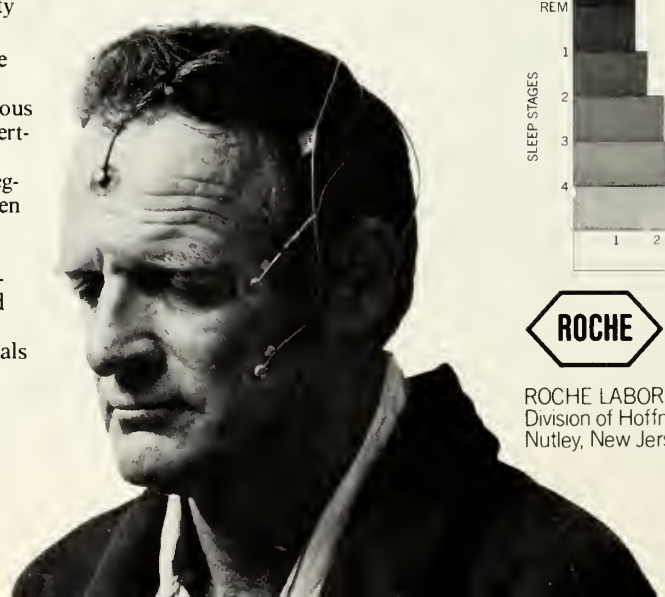
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Use in women who are or may become pregnant only when potential benefits have been weighed against possible hazards. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, initial dosage should be limited to 15 mg to preclude oversedation, dizziness and/or ataxia. If combined with other drugs having hypnotic or CNS-depressant effects, consider potential additive effects. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported were headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase. Paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, have also been reported in rare instances.

Dosage: Individualize for maximum benefici effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

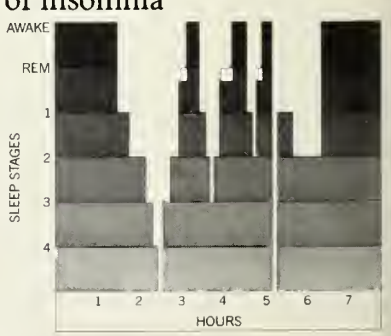
Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



REFERENCES:

1. Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975
2. Dement WC, *et al*: Long-term effectiveness of flurazepam 30 mg *h.s.* on chronic insomniacs. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, Jun 30-Jul 4, 1975
3. Kales A, *et al*: *Arch Gen Psychiatry 23*:226-232, Sep 1970
4. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

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dications: Relief of anxiety and tension ccurring alone or accompanying various sease states.

ontraindications: Patients with known ypersensitivity to the drug.

arnings: Caution patients about pos-ble combined effects with alcohol and her CNS depressants. As with all CNS-cting drugs, caution patients against azardous occupations requiring com-ete mental alertness (*e.g.*, operating achinery, driving). Though physical nd psychological dependence have rarely een reported on recommended doses, se caution in administering to addic-on-prone individuals or those who ight increase dosage; withdrawal symp-ms (including convulsions), following scontinuation of the drug and similar to ose seen with barbiturates, have been re-orted. Use of any drug in pregnancy, lac-tion, or in women of childbearing age quires that its potential benefits be eighed against its possible hazards.

recautions: In the elderly and debilitated, nd in children over six, limit to smallest ffective dosage (initially 10 mg or less per ay) to preclude ataxia or oversedation, creasing gradually as needed and toler-ed. Not recommended in children under x. Though generally not recommended, if ombination therapy with other psycho-opics seems indicated, carefully consider dividual pharmacologic effects, particu-rly in use of potentiating drugs such as AO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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OCTOBER
1976

VOL. LXXVII
NO. X

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in freq and/or severity of grand mal seizure require increased dosage of standar convulsant medication; abrupt witho may be associated with temporary ir crease in frequency and/or severity seizures. Advise against simultaneou gestion of alcohol and other CNS dep sants. Withdrawal symptoms (simila those with barbiturates and alcohol) occurred following abrupt discontin (convulsions, tremor, abdominal an cle cramps, vomiting and sweating) addiction-prone individuals under c

respond to one

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is because her problem,
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provide relief for both—as
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d, the depressive symp-
s associated with it are also
n relieved.
There are other advan-
s in using Valium for the
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anxiety with secondary
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um is pronounced and
d. This means that im-
ement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



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in psychoneurotic
anxiety states
with associated
depressive symptoms

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o habituation and dependence. In
nancy, lactation or women of child-
ng age, weigh potential benefit
st possible hazard.

autions: If combined with other psy-
opics or anticonvulsants, consider
ully pharmacology of agents em-
d; drugs such as phenothiazines,
otics, barbiturates, MAO inhibitors
ther antidepressants may potentiate
tion. Usual precautions indicated in
nts severely depressed, or with latent
ession, or with suicidal tendencies.
Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Volume LXXVII, Number 10—October, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Copyright 1976, by the Kansas Medical Society, Indexed in "Hospital Literature Index," "Index Medicus." Available through University Microfilms. Listed in "CC/Clinical Practice."

Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

Editor: David E. Gray, M.D., 105 Medical Arts Bldg., Topeka 66604.

Editorial Board: David E. Gray, M.D., Editor; Orville R. Clark, M.D., Topeka; Richard H. Greer, M.D., Topeka; Donald R. Pierce, M.D., Topeka; John A. Segerson, M.D., Topeka.

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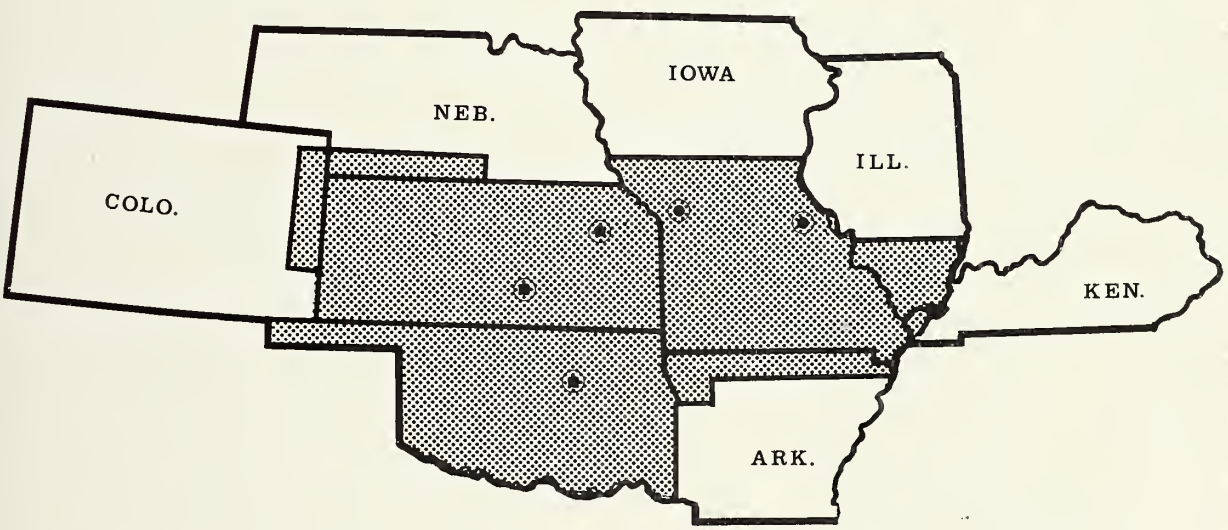
Managing Editor and Advertising Manager: Val Braun, 1300 Topeka Avenue, Topeka 66612.

Business Manager: Jeremy Slaughter, 1300 Topeka Avenue, Topeka 66612.

The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Kansas Physician:

Our Auxiliary's first summer conference was held in the lovely Heritage Room of the Highland Manor Hotel, Great Bend, and 83 Auxiliary members registered for the two-day session. Also present was Mrs. Jack Stelmach, President-Elect of Missouri Auxiliary. All registrants had their blood pressures taken by Barton County Auxiliary members who are nurses. Either the ladies were nearly dead from the heat, or the nurses could not hear sufficiently well, because the diastolic pressures were extremely low, and only those who were already on blood pressure medication registered higher readings. Members had been asked to introduce themselves by using posterboards and presenting their families, hobbies, and other interests. Our KU liaison members, Mmes. JoAnn Walker and Sue Burket, had a novel poster displaying their family members and interests; the Barton County President, Mrs. Marjorie Polson, and her family were in Centennial costumes; Mrs. Janice Reitz, Riley County President, had photos from babyhood to the present; and Mrs. Diane Sanders, Membership Chairman of Lawrence, displayed photos of family hobbies and sports. Other posters indicated our members and their families enjoy diversified interests, hobbies, and sports activities including tennis, sailing, swimming, boating, skiing (water and snow), flying, golfing, bowling, hiking, and camping.

Following the business meeting and afternoon presentations by selected speakers, Mrs. Martha Philgreen, Ottawa, shared family experiences with her son Kevin, who is a handicapped child. She was an inspiration for the entire group. Guests then toured the three-story Komarek Home of Antiques, the Jean Carothers Little Gallery, where five vied to buy Jean's masterpiece, and others soothed their nerves by swimming at the SPA. A cooling summer rain eliminated the poolside luau, but we moved inside for a bountiful meal. Mrs. Mildred Brown, in a musical reading, revealed her humor and musical and dramatic talents. All present thoroughly enjoyed her entertainment.

Mr. Larry Keenan, a respected Great Bend lawyer, kept the ladies glued to their seats at an early continental breakfast, when he discussed, "Wills and Trusts." He had prepared a hypothetical case with a special handout for our group.

Mmes. Jean Crouch and Kathleen Wedel conducted a mini-workshop. The members were truly challenged to continue the projects suggested by our efficient and well-organized chairmen.

Barton County physicians joined the Auxiliary members to hear Dr. Robert Kugel, Executive Vice-Chancellor of the KU Medical School, speak on "Current Trends in Medicine." He discussed recruitment of physicians, problems facing small towns and towns without hospitals, recruitment of wives, KU programs to interest young physicians to settle in smaller communities, his plans for a rural health institute, the family practice residencies, and admissions policies for medical students. He concluded his program by answering questions fielded by Auxiliary and medical society members

Following a delicious salad buffet luncheon, Mr. Gary Caruthers discussed the functions and availability of the Kansas Medical Society staff, and Dr. Emerson Yoder brought us up to date on current medical problems in Kansas and possibilities for our involvement in professional liability programs next year. Other guests included our Kansas Medical Society Advisory Chairman, Dr. John Blank, Hutchison, and his wife Mildred, and Mrs. Robert Kugel and daughter, Jennie, of Kansas City.

I wish to personally thank all the members who attended our first summer conference, as well as the Barton County Auxiliary members who served so effectively on the planning committee, namely Mmes. Patricia Degner, Marjorie Polson, Elizabeth Evans, and Mrs. Haven Krueger, who collected the novel gift items furnished by Great Bend businessmen.

We are planning a fall fling for September, and our Gold Dust AMA-ERF twins, Mmes. Caryl Bichlmeier and Mary Yulich, will be loading their van to travel to central and south-central Kansas. They will be joined by Mmes. Jacqueline Burnett, Jean Crouch, Kathleen Wedel and the President, and we will visit and become acquainted with members living in McPherson, Stafford, Pratt, Iroquois, and south-central counties for our third annual social and get-acquainted visit. We really enjoy meeting all our enthusiastic members, renewing friendships, and sharing our mutual concerns and goals.

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the Kansas
Medical Society

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2. Call us about any art-related need you have
3. Write us, asking to receive notices of new exhibitions and our free newsletters with our latest list of offerings.

We really would like to get to know you better.

Sincerely,

Sondra Goldman

Sondra Goldman
Director

AMA House of Delegates

Summary of Actions Taken at the 125th Annual Convention, Dallas, Texas, June 26-July 1, 1976

The following report was prepared and submitted to THE JOURNAL by George E. Burket, Jr., M.D., Overland Park, and Clair C. Conard, M.D., Dodge City—AMA Delegates; and by Alex Scott, M.D., Junction City, and Lew Purinton, M.D., Wichita—AMA Alternate Delegates. All attended the meeting in Dallas, where they appeared before the reference committees and acted upon all the business submitted to the House. The report is a summary of some of the actions taken by the AMA House of Delegates and is not meant to be a complete report of all of the actions.

Also attending the meeting, representing the Kansas Medical Society, were Emerson D. Yoder, M.D., President; John D. Huff, M.D., President-Elect; and Mr. Jerry Slaughter, Executive Director.

There is always much activity at the annual convention of the AMA, since this is the meeting at which officers, as well as members of the Board of Trustees and other councils are elected. Since Kansas has only two delegates to the AMA, an attempt to improve our impact was made by caucusing with the Oklahoma delegation. We found this to be very helpful and hope to enlarge upon this in the future. We have also contacted the representatives from Arkansas and Missouri.

Next year, the delegates will continue the policy of studying resolutions ahead of time and assigning reference committees to the different delegates in order to study these more thoroughly. An attempt was made to make sure that as many reference committees as possible were attended by the representatives from Kansas. Dr. Yoder, Dr. Huff, and Jerry Slaughter all participated in this venture in order to try to have as much influence as possible on the policies as adopted by the American Medical Association.

AMA delegates renewed their support for the association's Medicredit proposal for National Health Insurance, but decided against seeking legislation to guard against the cost of catastrophic illness. Considerable discussion ensued concerning National Health Insurance and the advisability of supporting it, and the consensus was that most delegates would approve the least objectionable form of government interference possible.

Richard E. Palmer, M.D., was elected President of the American Medical Association. John Budd, M.D., was chosen President-Elect. Dr. Budd is a Cleveland, Ohio, family practitioner and has been a member of the Board of Trustees of the American Medical Association for some time.

In responding to rather strong instructions from the House of Delegates last year, the Board of Trustees developed an austerity program for the AMA and reported that the association is now fiscally stable and well on its way to replenishing its reserves. At the same time, the House of Delegates voted to retain the annual dues at $250 and expressed its approval of the strong actions on the Board of Trustees in fighting government intrusion into the practice of medicine.

The so-called "living will" for patients was not accepted by the House of Delegates. A proposal by the New Jersey delegation offered a restatement of AMA policy, to the effect that the use of extraordinary life sustaining machines was a moral decision between the patient and physician. But the proposal included a statement that the House felt would provoke more intrusion by the legal profession, and it was felt that anything along this line would be detrimental to patient care.

The AMA council system was restructured as ordered at the clinical convention in Portland, in December, 1974. The House approved by-law changes establishing the size, composition, and tenure for eight standing councils of the AMA. All other AMA councils will be appointed on an ad hoc basis and carry specific phase-out date.

For the first time in many years, a member of the Board of Trustees elected was from the Midwest. Hubert A. Ritter, M.D., a St. Louis gynecologist, was successful in his bid for election. Also elected to the Board of Trustees for the first time was John J. Coury, Jr., M.D., from Port Huron, Michigan. Reelected to the Board was Frank Jirka, Jr., M.D., Chicago, and L. H. Steen, M.D., Indiana.

The House of Delegates also approved the Board of Trustees report reaffirming the AMA policy that osteopaths should be permitted to enter specialty training

if they meet entry standards. The House will also study efforts by podiatrists to win staff privileges in hospitals, equal to those of the medical staff.

The House of Delegates also approved the resolution expressing concern over the reduction in the military operated multi-specialty residency programs, and backed the concept that the Armed Forces should train their own physicians as much as possible. At the same time, the House of Delegates continued its disapproval of—but reluctantly accepted the existence of—the new Military Medical School scheduled to open its doors this fall. The Council on Medical Service submitted a strong blast against the Military Medical School, calling it "needlessly expensive and a distinct departure from the long tradition of academic autonomy of professional education in this country."

Other actions taken by the House of Delegates:

Requested the Joint Commission on Accreditation of Hospitals to ensure that mandatory review and audit programs do not overemphasize cost savings at the expense of quality medical care;

Voted to urge the Drug Enforcement Agency (DEA) and the Food and Drug Administration to ensure that an adequate supply of controlled substances—narcotics—is available for legitimate medical use;

Referred to the Council on Medical Service a resolution opposing a federal requirement that nursing home patients must be examined by a physician every 60 days;

Asked constituent medical societies to investigate the accuracy of quotations attributed to physicians in lay press stories on cancer treatment. The resolution included a proposal to investigate a *Parade* article which stated that cancer is "likely to be misdiagnosed" by most physicians;

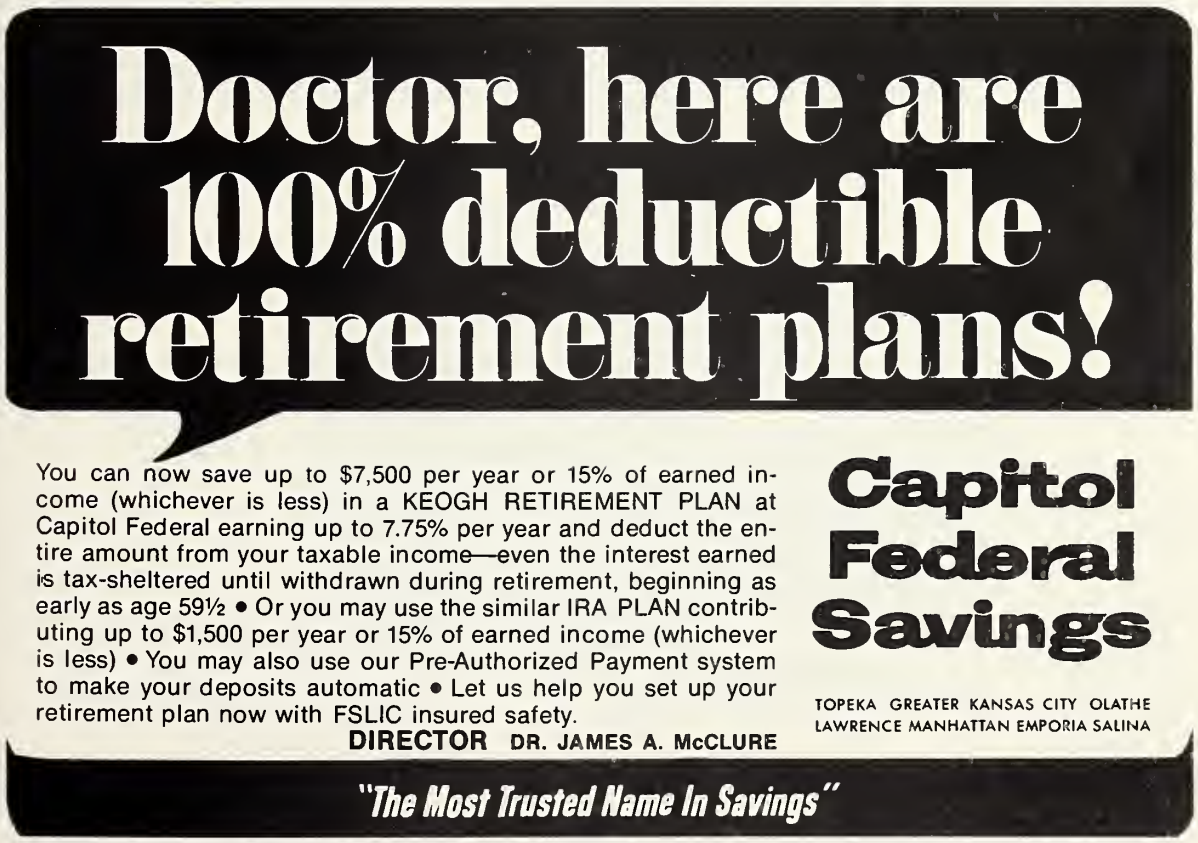
Referred to the Board of Trustees a resolution seeking clarification of ethical guidelines for physicians who own or have financial interest in very expensive diagnostic equipment, such as used for computerized tomography;

Encouraged implementation of building code changes that would provide access to all public facilities for the handicapped and wheelchair-bound individuals;

Opposed the proposed shutdown of the U. S. Public Health Service Addiction Research Center in Lexington, Kentucky;

Rejected a resolution against discrimination in AMA publication advertising. The House agreed that the present policy already includes an antidiscrimination statement;

Asked the Board to study whether some continuing



medical education programs are charging excessive fees to participants, and whether continuing education programs should be required to declare whether they are being operated for profit;

Encouraged the expansion of clinical training in diploma nursing education programs;

Referred back to the Board a Council on Medical Education report that would have revised urology residency training program requirements;

Referred to the Board for further study a resolution urging medical specialty boards not to independently change residency requirements without consultation with the proper residency review committee of the AMA;

Referred to the Board for further study a resolution that would have clarified the AMA policy on collective bargaining for interns and residents. The Nebraska resolution proposed that while the AMA supports such collective bargaining, it should not be interpreted as an endorsement of trade unionism;

Referred to Board study a proposed reevaluation of general clinical training in medical schools and residency programs;

Voted to oppose Equal Employment Opportunity Council guidelines that would, in effect, place equal representation among medical specialties for women and minorities above demonstrated competence;

Adopted a resolution that directs the AMA Council on Medical Education and the Liaison Committee on Continuing Medical Education to avoid accrediting procedures for continuing education programs that would have adverse effects on state medical society programs.

The Kansas delegates are studying ways to be more effective at the national level, and would invite your suggestions. We also urge you to participate in the AMA conventions when you can attend. It would be helpful to us to know who will be present, as this would enable us to cover the reference committees more effectively.

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Book REVIEWS

TEXTBOOK OF BASIC EMERGENCY MEDICINE, by Robert H. Miller, M.D. and James R. Cantrell, M.D. (Editors), The C. V. Mosby Co., St. Louis. 1975. 233 pages, 184 illustrations. $6.95.

This paper bound textbook of emergency medicine is probably the first of many books to come, directed at the new growing field of paramedics or, as entitled in Kansas, Emergency Mobile Intensive Care Technicians. The first section of the book, Part I, EMERGENCIES INVOLVING THE HEART, does an excellent job of presenting cardiology as the emergency medical technician should know it. The anatomy, pathophysiology, electrocardiography is all there. The principles of EKG interpretation beginning with basic descriptions of the PQRST complexes, arrythmias, both non-fatal and fatal, are included. Therapy of the cardiovascular emergencies with the appropriate drug therapy is adequately covered.

The second section, entitled Part II, EMERGENCIES INVOLVING OTHER BODY SYSTEMS, unfortunately tells the reader in the table of contents where the primary emphasis of the book lies. Although cardiac emergencies, according to various authorities, comprise up to one-third of the problems that face a paramedic, there are other conditions. This text seems to neglect them. For example, only one page in the entire book is accorded to diabetes mellitus and hypoglycemia. Although certainly not as spectacular to deal with as the cardiac emergency, diabetes is a frequent prehospital problem and should be accorded more time in the discussion. Management of cervical spine injuries is dealt with only sketchily, and the mechanism accorded to seat-belt injuries of the spinal region is presented in such a manner that one gets a false impression of its mechanisms.

Crisis intervention is well treated, but that of poison and drug ingestion is passed over only lightly. In summary, the textbook presents some sections in appropriate depth, while others are treated superficially. As the first major textbook directed to the paramedic, however, the authors should be commended on their approach. Subsequent textbooks (as well as subsequent revisions of this one) will solve the problem in realizing that the paramedic is not only a cardiology technician, but that he should totally understand prehospital management of every major condition.—*N.E.McS.*

THE NEW WAY TO LIVE WITH DIABETES, by Brian Boylan and Charles Weller, M.D., Doubleday & Co., Inc., New York. 1976. 140 pages. $2.50.

This book was originally published in 1966, and has been updated to 1976. There are many good points brought out in the book; however, it mentions only two strengths of insulin and does not mention U-100 Insulin; nor does it mention Semi-Lente or Ultra-Lente.

The book states that most patients today are controlled on one daily dose of Intermediate Insulin. However, the American Diabetes Association advises that most adult onset diabetics should be controlled on diet alone, without insulin, and many juvenile diabetics require two or more injections of insulin daily.

The management of insulin shock and diabetic coma should be discussed in a more careful way than was done in the book. The use of oral drugs was not sufficiently discussed. The official statement of the American Diabetes Association recommends that oral drugs may be used in adult onset diabetics who are not insulin dependent, and in the patient who cannot or will not use insulin. The book does mention diabetes in pregnancy, but there are differing opinions about the statements made in this book. The use of hormone levels to determine date of delivery was not discussed.

The future of diabetics fails to include the most recent research done in diabetes. The reviewer feels that this book should be revised and updated again before it is made available to the public.—*G.W.N.*

(Continued on page 449)

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MEDICAL GROUP PRACTICE GROWS

While a substantial portion of the nation's health care is still delivered by the solo practitioner, medical group practice continues to show significant growth in the 1970s. This is a major finding of the 1975-76 edition of the American Medical Association's "Profile on Medical Practice," published as a companion to *Socioeconomic Issues on Health,* a book containing updated information on the socioeconomic issues of health from a variety of sources outside the AMA.

Socioeconomic Issues of Health shows the steady increase in the number of physicians in the United States. In 1950, there was a physician for each 711 Americans; in 1974, the figure was one physician for each 566 persons. Total number of physicians in 1974 was 379,748. Today, there are 8,483 medical groups in the United States, whose 66,842 physicians represent 23.5 per cent of the active non-federal physician population, the AMA studies find.

Medical groups are increasing in size as well as in number. If present trends continue, it is likely that the solo, fee-for-service practitioner will continue to decline in importance while group practice becomes more prevalent. The small-scale, single-specialty group of three to five physicians may well become the predominant choice of young physicians.

Other highlights of "Profile of Medical Practice" include:

- Municipal hospitals are devoting more resources to outpatient and emergency care and less to inpatients in the 1970s, and these trends most likely will continue into the 1980s. Many patients will continue to visit emergency departments at hospitals for non-emergency health conditions.
- A review of the literature suggests that health care researchers can increase the physician's productivity. There appears to be important potential for delegation of many routine tasks by the physician.
- Economic controls, in effect from August 1971 to April 1974, appear to have had important impact on physicians' incomes. For more specialists, evidence indicates that increases in practice expenses exceeded the rate of increases in fees, and that this has had a dampening effect on the rate of change in net incomes. Evidence also indicates that the rate of increase in net incomes may be returning to pre-control levels.
- There is wide geographic variation in physicians' fees, ranging from $6.49 for followup office visit in communities of under 10,000 population to $17.01 for areas with populations over five million. Much of this variation is due to the specialty composition of the area.

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Medical Education

After three long years of sometimes bitter infighting, the Congress has passed legislation to provide more than $2 billion over a three-year period for medical education assistance. The long squabble on how many federal strings should be attached and in large part due to the activity of the American Medical Association and other groups those strings have been kept to a minimum.

Commenting on the final provisions of the conference committee action, James H. Sammons, M.D., AMA Executive Vice President, pointed out that the bill still contains language that will be troublesome, but emphasized that, "The end results of years of work will be a bill that will—overall—help us increase the supply of physicians and the number of physicians in primary care as well as continued support of the National Health Service Corps."

The major battle fought by the AMA, the Administration, and others defeated the prolonged efforts of some to use the so-called Health Manpower bill as a vehicle for federal dictation of curriculum, regional allocations, federal service, and licensure of physicians. As a result of the legislation's passage, medical schools are assured of a continuation of capitation and construction funds, medical students will have increased opportunities for federal scholarships and loan assistance, and the government's National Health Service Corps stands firmly entrenched as an expanding program to channel physicians into shortage areas. In addition, medical schools will be required to produce more "primary care" physicians.

The most controversial feature in the separate bills that had been approved earlier in the House and Senate had been a House provision compelling medical graduates to pay back in money or in shortage area service for the capitation aid their medical schools had received (rather than individual scholarships or loans the students might have taken). This was not contained in the Senate bill nor in the final compromise measure worked out by the House and Senate conferees.

Only one burdensome requirement of importance remained in the bill. As a condition for capitation aid, medical schools must have in 1978 at least 35 per cent of their filled first-year positions in direct or affiliated residency training programs in primary care, defined as Family Medicine, General Internal Medicine, and General Pediatrics. This percentage rises to 50 per cent by 1980.

Rather than requiring certain percentages of medical school graduates to enter shortage area service or join the National Health Service Corps (NHSC), the new medical education bill simply puts up enough PHSC scholarship funds to assure sufficient numbers of young physicians entering the program. Authorized for such scholarships are $75 million for the fiscal year starting this October, $140 million next fiscal year, and $200 million for fiscal 1980. Also, $51 million over three years was authorized for special scholarships for "students who are of exceptional financial need." The NHSC also was authorized $174 million for three years for its operations.

For construction of ambulatory, primary care teaching facilities for physicians and dentists, the legislation authorized $120 million for three years.

The capitation grant levels were set at $2,000 per student for the coming fiscal year, $2,050 for fiscal 1979, and $2,100 the next year.

New restrictions were imposed on alien foreign medical graduates, including a requirement that they return to their country of origin after training. U. S. citizen graduates of foreign medical schools would be given special consideration for acceptance by American medical schools. Medical board and English proficiency tests are specified for immigrating health professionals.

HEW, under the bill, will prepare sweeping data on health professionals' location, training, etc., "for the purpose of establishing a uniform health professions data reporting system."

The measure provides that new "unaffiliated" residency programs will not be eligible for federal grants and loans, but existing programs are given a "grandfather clause" exemption.

There is no language pertaining to federal relicensure for physicians.

Blood Banks

Hospital-based blood banks have charged that the American National Red Cross is threatening "a crisis in blood supply which will have an impact on health care delivery." At issue is the Red Cross decision after 16 years to cancel its agreement with the American Association of Blood Banks to exchange blood through the AABB clearinghouse program.

The AABB, which represents most major hospital banks in the country, termed the Red Cross decision a "drastic step" that "will have an adverse effect on the nation's blood supply and will serve to fragment the blood banking system in this country." Bernice Hemphill, AABB President, told a Washington, D. C. news

conference that if the Red Cross carries out its threat, "competition for blood donors between AABB banks and Red Cross centers will increase, and the blood programs of both organizations will be affected by the public confusion that will follow."

The blow-up pits the completely voluntary, no-credit approach to blood collection as embodied by the Red Cross against the individual responsibility of advance credit for giving philosophy of the hospital banks. And the wrangle threatens to jeopardize the careful and deliberate efforts being made by the parent American Blood Commission to bring the competing elements in blood banking together in a voluntary cooperative program before the federal government steps in.

The Red Cross was urged by the AABB to reconsider its decision or to agree to national mediation on the issue. The AABB said it went public with its appeal and protest "not without a great deal of anguish . . . but we no longer have a choice."

SAILORS WERE HEALTHY ON COLUMBUS' VOYAGE

The crews of Christopher Columbus' three small ships on his first voyage to America were a healthy lot and the medical men aboard had little to do, says a report in a recent issue of the *Journal of the American Medical Association*.

Cesar A. Lopez, M.D., of Martin Army Hospital, Fort Benning, Ga., reports that in Columbus' time there were several kinds of medical professionals, among which university-trained physicians, surgeons, barbers, and apothecaries were the most commonly known. Each of the three ships had a medical professional aboard, probably one surgeon, one university-trained physician and one apothecary, Dr. Lopez says. The surgeon and the university-trained physician were among the group that Columbus left behind at Navidad. All died before his return on the second voyage.

Despite the Spartan conditions that the crew must have experienced, it is known that the trip was uneventful from a medical point of view, that the crew were healthy, and that the physicians had little to do.

Columbus' journal has only two entries in which medical problems are mentioned, including reference to the pure water available in the rivers of the New World. The explorer notes that on the return voyage he himself suffered from severe leg pains after three days of remaining constantly on bridge during a storm. This may have been the beginning of the arthritis that plagued Columbus for the remainder of his life.

The discovery of America marks the finding of two other items of medical significance. The first is tobacco, found by Columbus in Cuba on his first trip. The second is syphilis. Although some historians disagree, many believe the disease was taken from America to Europe by Columbus' sailors on their return trip.

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Council Meeting

Report of meeting held September 26, 1976

A meeting of the Council was held at 10:00 AM on Sunday, September 26, 1976, at the Best Western Plaza Inn, Junction City. Dr. Emerson D. Yoder, President, called the meeting to order.

Present were: Drs. Lewis G. Allen, John N. Blank, Thomas P. Butcher, Edward G. Campbell, Clair C. Conard, Vernon W. Filley, Herbert Fransen, Phillip A. Godwin, L. William Halling, Robert B. Hudson, Warren E. Meyer, Robert F. Moore, Jay L. Richardson, Alex Scott, Charles R. Svoboda, Max E. Teare, Kermit G. Wedel, and Emerson D. Yoder.

Also present was Robert Kugel, M.D., Vice Chancellor for Health Affairs of the University of Kansas Medical School. Also present was Mrs. Martha E. Hunt, Wyandotte County Medical Society. Present were: Mr. Gary Caruthers, Mrs. Val Braun, and Mr. Jerry Slaughter.

Dr. Edward G. Campbell, Treasurer, presented the Treasurer's Report, including the 1977 budget. A considerable time was devoted to the review of budget. Line items were discussed individually, after which the Treasurer's Report and the 1977 budget were adopted.

The Treasurer directed the Executive Office to initiate a study into the financial support which the Executive Office provides to the various specialty societies in the form of printing, addressing, mailings, meals, and any other expenses. These findings will be presented to a future meeting of the Council for a policy directive.

Dr. Campbell reported on the Security Equity Fund, established in 1967 for the purpose of providing retirement income for Oliver Ebel. From the original investment of $46,700, the fund has grown to $48,596, and because of the poor earnings record the Treasurer made a motion to liquidate the Fund and to place the assets in a savings and loan type investment, from which Mr. Ebel's pension would then be paid. The Council reiterated its commitment to pay Mr. Ebel a pension of $10,000 a year for ten years beginning June 1, 1975.

Dr. Campbell concluded his report by saying that no dues increase will be necessary for 1977.

Mr. Slaughter then gave a status report on the constitutional test of Senate Bill 646. Dr. Byron T. Liggett, Great Bend, notified the Board of Healing Arts, the Attorney General's office, and the Insurance Commissioner's office that he would not comply with the requirements of SB-646. He is now under an injunction imposed by the Attorney General to enjoin Dr. Liggett from practicing medicine without professional liability insurance. Dr. Liggett will file suit to test the constitutionality of the law on the issue of mandatory insurance participation. It was reported that the Kansas Hospital Association will intervene in the case on behalf of the constitutionality of the law.

A list of 77 KMS members who have not yet paid the 1975 special professional liability assessment was next presented to the Council. After some discussion, a decision was made to suspend those delinquent from membership in the Kansas Medical Society and to notify them, the secretaries of the respective component societies, and Councilors of the appropriate Council districts of this decision. The names of the delinquent members will be forwarded to the Councilors and they will be allowed to rejoin the Society upon payment of the delinquent assessment. Upon a question, the Council ruled that no portion of dues will be refunded when membership is terminated.

The Council heard a report on the status of the lawsuit filed against Dr. Alexander W. Mih, Humboldt, concerning the locality rule. The suit is currently on appeal. Because of the sufficient statewide interest in this case, the Council decided that the Kansas Medical Society will file an *amicus curiae* brief in the suit.

Dr. Emerson D. Yoder presented the Council with a summary of the Executive Committee actions and asked their approval.

Dr. Allen spoke against the action of the Executive Committee in its policy statement concerning Senate Bill 646. It was his opinion that the Medical Society should not, as an organization, support actions of the legislature which were not in the interest of all physicians of Kansas. Dr. Conard explained that the purpose of such action on the part of the Kansas Medical Society Executive Committee was to clarify the validity of the law in all of its aspects. Following the discussion, the actions of the Executive Committee were approved with one dissenting vote.

In another action, the Council granted a charter to the Butler-Greenwood County Medical Society.

A request from the Oklahoma State Medical Association, for a joint meeting of their council on planning and development with the Executive Committee of the Kansas Medical Society, was presented. Dr. Conard ex-

plained that the purpose of such a planning session would be to formulate the combined strategy to cover AMA conventions. This combined meeting would provide another opportunity for states with similar views to get together and discuss general medical society business and resolutions to be submitted to the AMA House of Delegates. This approach was endorsed by the Council.

After lunch, the Council was asked to fill the vacancies on the KaMPAC Board of Directors. It was suggested that the names of alternate directors be used from the list provided. Upon motions duly made and seconded, the following appointments were made: District 1: Alex Scott, M.D., Junction City, and Mrs. Lucien R. Pyle, Topeka; District 3: Mrs. John O. Yulich, Kansas City; District 5: Mrs. Edgar H. Beahm, Independence.

Dr. Yoder then reported on a possible Kansas Farm Bureau-Kansas Medical Society student loan program. It is proposed that the Illinois model, in existence over the past 25 years, be used in Kansas. It provides student loans in return for service in rural areas. It has also secured positions at the medical school for students who participate in this program with somewhat lower academic records than are normally required. The Kansas Medical Society and the Kansas Farm Bureau are tentatively discussing the possibility of a similar program in Kansas.

Dr. Yoder asked Dr. Kugel for additional comment with regard to student loans. Dr. Kugel stated that funds available for this purpose have decreased over the past several years, so that presently KUMS cannot meet the need fully. There is also an increased effort to secure representation in medical schools from the underserved areas. Whereas, Kansas retains 34 per cent of its graduates, it is estimated that Illinois with its program has retained 54 per cent, excluding Cook County. Dr. Kugel emphasized that the involvement of the Kansas Medical Society in such a program would lend it the necessary influence and support.

The Council approved the concept for such joint effort and directed the Executive Office to obtain more details from the Farm Bureau.

Dr. Yoder then reported that the Executive Committee had approved the printing and purchase of 2,000 copies of the book, "The Kansas Doctor." These books would be turned over to the Woman's Auxiliary for sale and the proceeds would go to the AMA-ERF fund. It is anticipated that the cost incurred by the Kansas Medical Society would be fully reimbursed.

Dr. Conard, Speaker, announced that the Fall House of Delegates will take place in Lawrence, on November 7, 1976, at which time the Society will chart its course for the next legislative session.

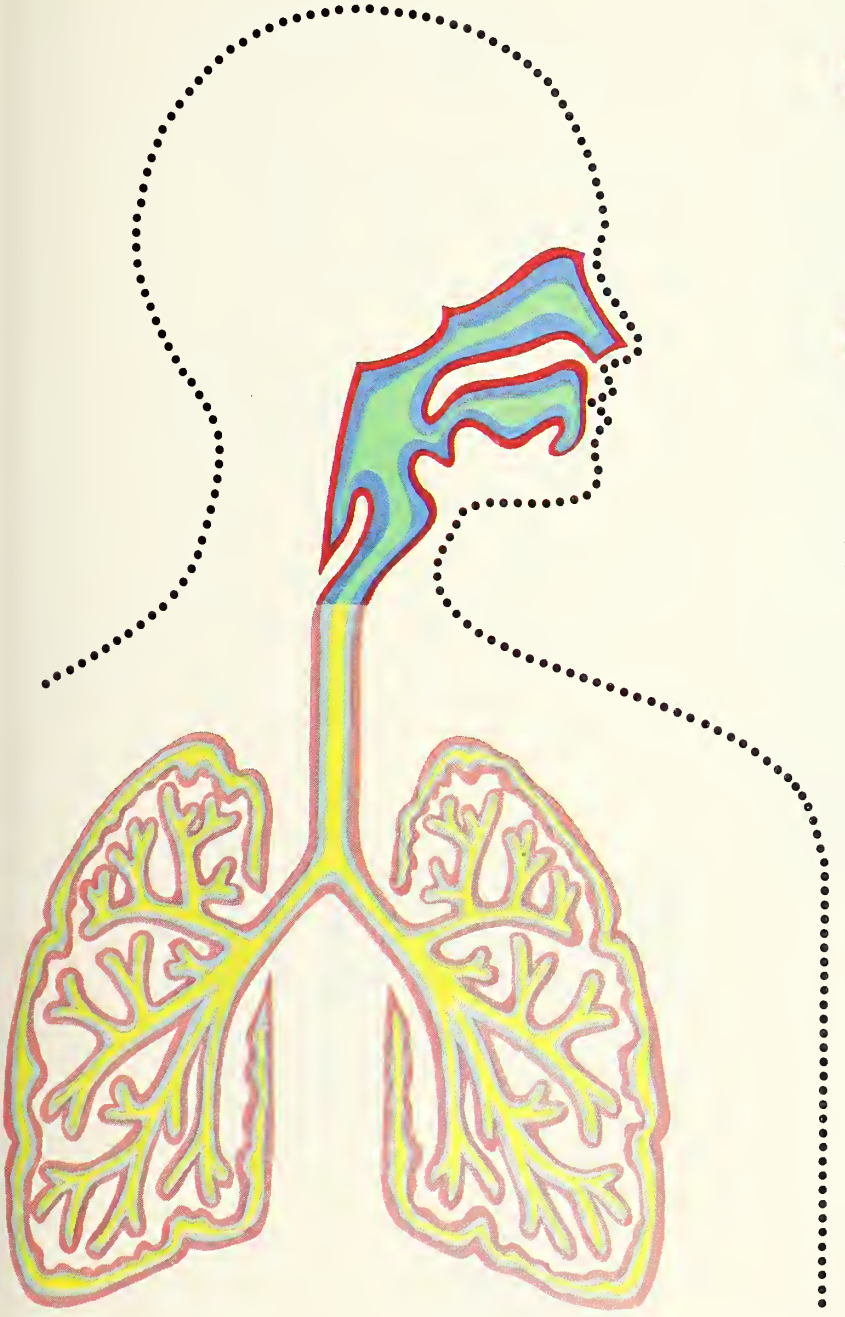
President's Message

(Continued from page 454)

BCHS—Bureau of Community Health Services
BHI—Bureau of Health Insurance
BQA—Bureau of Quality Assurance
DHEW—Department of Health, Education, and Welfare
ESRDP—End Stage Renal Disease Program
FDA—Food and Drug Administration
FTC—Federal Trade Commission
HSA—Health Systems Agency, Health Services Area, Health Services Administration
HMO—Health Maintenance Organization
GAO—General Accounting Office
IRS—You-Know-That
MAC—Maximum Allowable Cost
EAC—Estimated Acquisition Cost
MCE—Medical Care Evaluation
MCH—Maternal and Child Health
MOU—Memoranda of Understanding
MSA—Medical Services Administration
NOI—Notice of Intent
NPRMS—Notice of Proposed Rule Makings
NPSRC—National Professional Standards Review Council
PHDDS—PSRO Discharge Data Set
POC—Principal Operating Component
PRT—Program Review Teams
PSRC—Professional Standards Review Council (State)
PSRO—Professional Standards Review Organization (Local)
QAP—Quality Assurance Program
RAG—Regulations Advisory Group
SEC—Securities Exchange Commission
SRS—Social and Rehabilitative Services
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UR—Utilization Review
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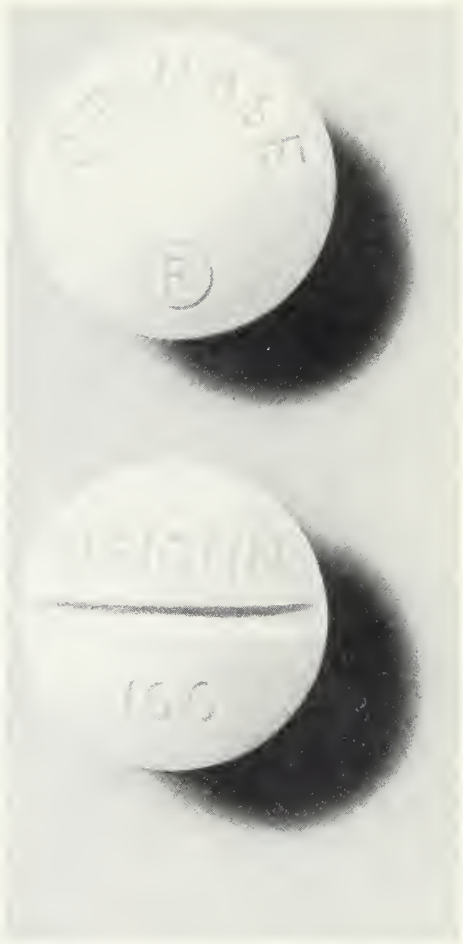
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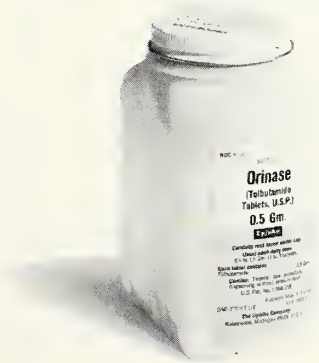
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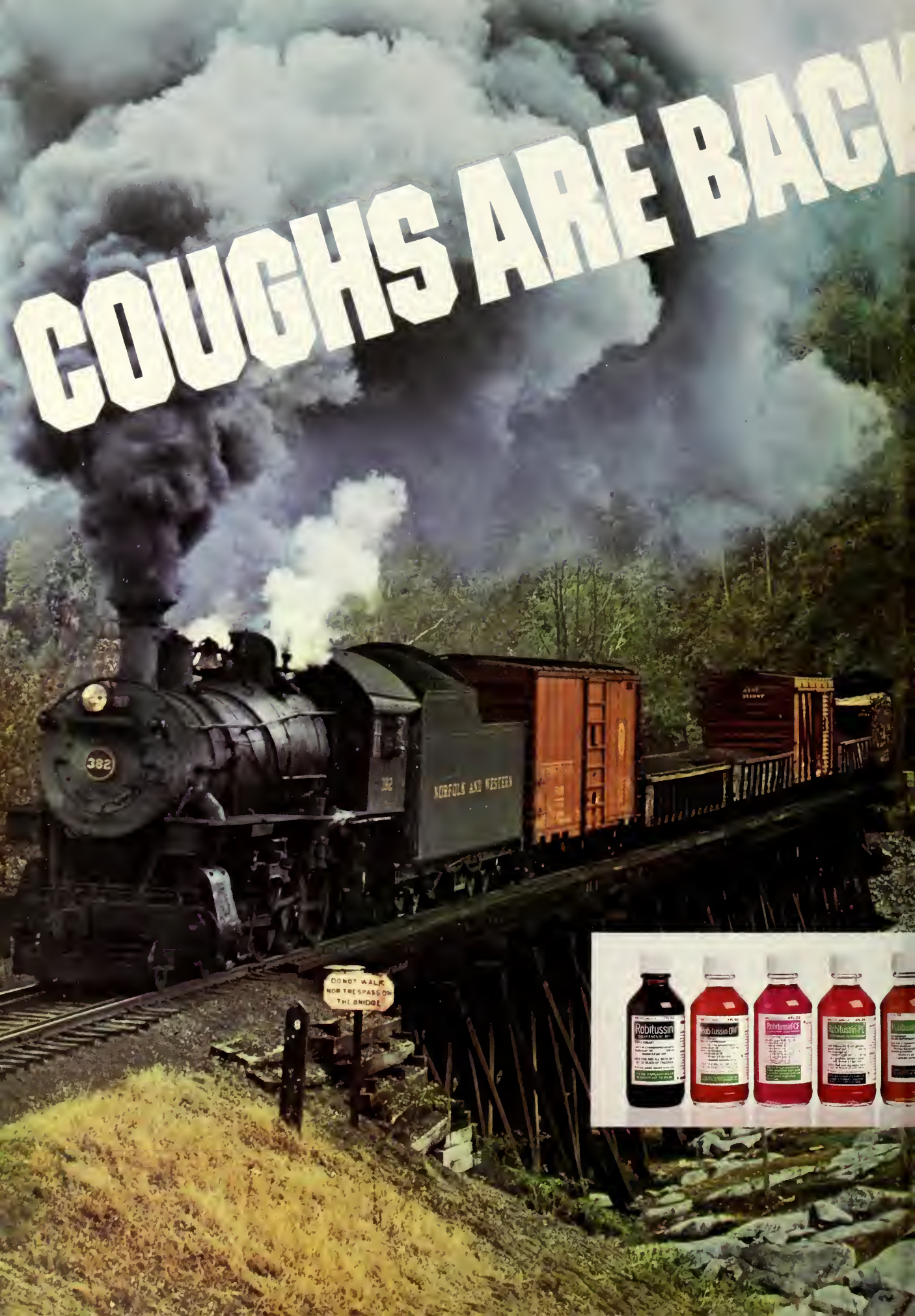
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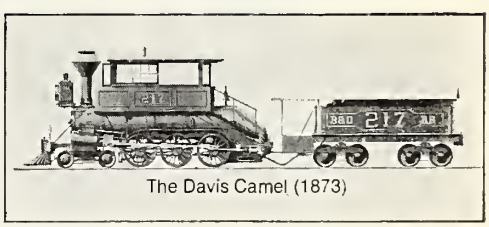
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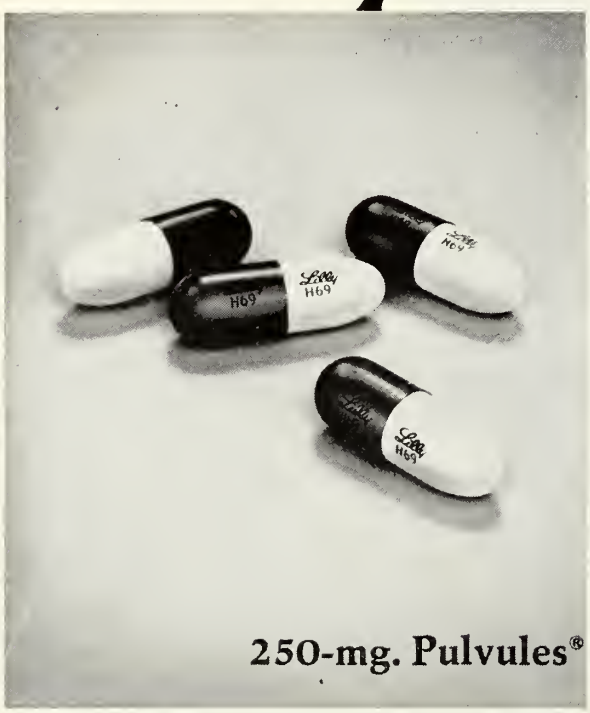


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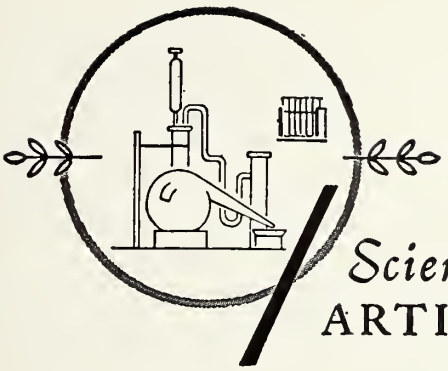


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Monitoring Intravascular Pressure

Swan-Ganz Catheterization

G. D. BEAUCHAMP, M.D., HUBERT BELL, M.D., *and* LYNN KINDRED, M.D., *Kansas City, Missouri*

THE FLOW directed balloon-tipped catheter in the intensive care unit provides the potential for obtaining hemodynamic data.[1] These data accurately reflect the left and right ventricular function in a variety of clinical disorders. By monitoring pressure contours, complete right ventricular catheterization at the bedside is feasible without fluoroscopy. The effectiveness and safety described in the paper by Swan *et al.* stimulated widespread application of the procedure.[1] It is the purpose of this paper to review the utilization of Swan-Ganz catheterization in a community hospital during 1974.

Methods

The technique of catheterization was similiar to the original description by Swan *et al.*[1] with particular attention to the precautions as outlined in their article. Number 5 or 7 French catheters were utilized as determined by vessel size. Pressure measurements were obtained utilizing the Statham Model P23Db strain gauge. Right atrial, right ventricular, pulmonary artery, and pulmonary artery wedge pressures were recorded. Continuous monitoring was maintained with the Automated Medical Systems computer patient monitoring terminal. The catheterization data and complete hospital charts of the patients undergoing this procedure during 1974 were reviewed for this report.

From the Department of Cardiology, St. Luke's Hospital, Kansas City, Missouri.

Results

Twenty-eight patients underwent Swan-Ganz catheterization during the study period. There were nine females ranging in age from 56 to 79, with a mean age of 69. Nineteen males between 49 and 70 years of age were studied, with an identical mean age.

The various clinical disorders encountered for which catheterization was completed were numerous *(Table 1)*. Cardiac and pulmonary problems made up the majority of cases, 82 per cent (F-23; M-28), requiring specific information for diagnosis or evaluation of therapy. The severity of the clinical conditions of the entire group is exemplified by the 50 per cent survival; 14 of the patients survived to leave the hospital; one-half of the patients succumbed to the disease.

Recent descriptions of vasodilator therapy in cardiogenic shock have demonstrated improved survival when compared to the high mortality with conventional therapy. Phentolamine infusion was administered to five patients in cardiogenic shock for varying periods of time, at infusion rates similar to those described by Walinsky *et al.*[2] Three of these patients survived. One of the survivors expired in refractory congestive heart failure 16 days after cessation of Phentolamine infu-

sion. Two patients expired in the intensive care unit with little demonstrable benefit from the Phentolamine infusion. This small series, and other published reports,[2] support the use of vasodilators in selected cases of cardiogenic shock.

Of the 14 patients who survived to leave the hospital, definite changes in therapy were initiated in 71 per cent (F-10, M-14) based on the information obtained from catheterization. Although no changes in treatment occurred in two cases, the data confirmed the initial clinical impression and was, thus, of benefit to the patient and physician. Two patients underwent this procedure as part of the complete left and right ventricular catheterization.

In the group of nonsurvivors, major changes in therapy based on catheterization data were initiated in 85 per cent (F-12; M-14). In one patient, diuresis with intravenous furosemide was continued as before catheterization. One patient was catheterized during resuscitation on admission to the intensive care unit. It is evident that the data obtained from catheterization influenced treatment in the majority (78%) of patients studied.

Previous reports have described varying success rates and low complication rates associated with this procedure. We were able to obtain complete right ventricular catheterization data in all of our cases. Three cases demonstrated complications associated with catheterization: one patient developed a run of ventricular tachycardia as the catheter was being slowly removed with simultaneous pressure recording. This lasted for approximately 6-8 beats and spontaneously converted to sinus rhythm as the catheter was withdrawn from the right ventricle; two patients developed minimal hemoptysis during monitoring. It was discovered that the heparinized solution had inadvertently run at faster than the prescribed rate in one patient. The catheter advanced over a 12-hour period in one patient, as noted on chest x-ray. Repositioning was completed. An infiltrate in the same area on the chest x-ray 12 hours later necessitated catheter removal without further sequelae. These were minor problems and no major complications were encountered.

TABLE I

CLINICAL DIAGNOSIS OF PATIENTS CATHETERIZED

	Number of Patients
Cardiac-related problems	
Cardiogenic shock	14
Acute myocardial infarction—measure LVEDP	3
Routine L&R heart catheterization	2
Postoperative problems	
Shock	3
Monitor fluid administration	1
Pulmonary problems	
Pulmonary edema—hydrostatic vs. endothelial disruption	1
CHF vs. multiple pulmonary emboli	1
CHF vs. pulmonary (rales/ronchi)	2
Nonketotic hyperosmotic coma	1

Discussion

Appropriate treatment of complex pulmonary and cardiovascular problems often requires more information than offered by review of electrocardiograms, chest x-rays, and bedside clinical examination.[3-7] The development of a balloon-tipped flow directed catheter and the description by Swan *et al.*[1] of the effectiveness and safety of the technique, stimulated widespread interest in obtaining complete right ventricular pressures. It was subsequently realized that the data obtained not only assisted in defining problems, but allowed continuous monitoring of the effectiveness of therapeutic maneuvers.[8] Swan-Ganz catheterization was utilized initially to study hemodynamics and monitor therapy in acute myocardial infarction. However, the list of indications for this procedure has continued to expand. Bedside evaluation and continuous monitoring are beneficial in clinical problems including: acute myocardial infarction,[2, 9, 10] acute mitral insufficiency, ruptured interventricular septum, temporary transvenous pacemaker placement,[11] pulmonary edema, and pulmonary emboli.[6] Patients sustaining multiple traumatic injuries, and surgical patients with a history of cardiac disease or dysfunction,[7] are candidates for Swan-Ganz catheterization. Problems consisting of critical fluid and electrolyte adjustment, such as bacteremia, pancreatitis, shock secondary to blood loss and mesenteric infarction, often require specific hemodynamic data to reach appropriate decisions.

Various articles in the literature have shown the relative inaccuracy of the central venous pressure (CVP) measurement in reflecting left ventricular hemodynamics, especially left ventricular end diastolic pressure (LVEDP) in the presence of myocardial dysfunction.[5, 10] Other authors have demonstrated a good correlation between LVEDP, left atrial mean pressure, pulmonary artery wedge pressure (PAW), and pulmonary artery end diastolic pressures in numerous clinical settings.[3, 5, 8, 9, 12-14] Although CVP and PAW pressures change in similar directions, in response to many therapeutic maneuvers, an unpredictable difference in

the rate of response has been illustrated. We, therefore, prefer monitoring PAW pressures as a reflection of LVEDP in most seriously ill adults, and particularly those patients with cardiovascular disease.

Additional studies following the Frank-Starling concept demonstrated that the cardiac output in patients in shock secondary to acute myocardial infarction improves as the LVEDP (PAW) is adjusted to approximately 14-18 mm Hg. Measurement of PAW and adjustment to this optimal value is essential in these critically ill patients.[2, 5, 14] Lassers *et al.*[15] and others[1, 10] described the discrepancy between left and right ventricular filling pressures in patients with inferior wall myocardial infarction. Measurement of CVP alone, and adjustment of therapy based on this data could be inaccurate and misleading. Improved survival in cardiogenic shock by treatment with vasodilator therapy after adjusting the PAW to the optimal value has recently been reported.[17] Monitoring the PAW and systemic intra-arterial pressures is mandatory for utilization of these potent agents In addition, the hemodynamic data provides prognostic information.

Summary

An early experience with bedside Swan-Ganz catheterization in a community hospital during 1974 was reported. Of the patients surviving the hospitalization, 50 per cent demonstrated the severity of clinical disorders encountered. Major changes in therapy based on the data obtained by catheterization were initiated in 71 per cent of the survivors, and 85 per cent of the non-survivors. The inadequacy of the clinical examination and other invasive procedures in predicting left ventricular filling pressure has previously been demonstrated.[4, 8] The success rate in obtaining pulmonary artery wedge pressures in this and other series is greater than 95 per cent. Lower rates, as noted by other authors[16] are probably due to relative inexperience of the physician. Although no major and only three minor complications were noted in this series, it is essential that the physician be aware of the list of reported complications and take precautionary measures to avoid them. Thromboembolic problems are the most common, but have been decreased by continuous heparin infusion systems.[17] Complete heart block and perforation of the pulmonary artery have been reported, but these are unusual complications.[18, 20] The incidence of significant complications should be quite low.

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Brucellosis

Localized Pulmonary Nodule Due to Brucella Suis

CARLOS A. CHAVEZ, M.D. *and*
GLORIA E. VEACH, S.M., *Leavenworth*

CLINICAL MANIFESTATIONS of brucellosis can be divided into acute and chronic forms. Acute brucellosis generally causes chills, fever, sweats, weakness, generalized aches and pains, arthralgia, fatigue, and exhaustion. Examination of the patient with acute brucellosis may reveal few or no physical abnormalities. The patients often may reveal a history of contact with cattle. Agglutination and other serological tests are positive at high titer for Brucella antibody. Acute brucellosis can generally be diagnosed with slight difficulty. Two patient groups may experience the chronic form of brucellosis. The first type are individuals who have passed through a proven acute attack but continue to have some manifestations, such as backache, joint pains, and general malaise. The second type are individuals who have never suffered from an acute attack, but are not well and complain of headache, lack of appetite, weakness, constipation, diarrhea, and abdominal pains. In these chronic cases, patients may or may not have had the occupational contact with cattle. In the second group, diagnosis is one of the more difficult problems in clinical medicine.

Brucellosis has long been known to variously involve the lungs, including pulmonary infiltration, pneumonia, pleural effusion, and pulmonary granuloma. Only five cases of patients with a solitary pulmonary nodule or granuloma have been reported. A case of proven chronic localized pulmonary nodule due to Brucella, documented by culture, is presented below.

Case Report

One week prior to admission, the 49-year-old white male was seen for a regular checkup and chest x-ray which revealed a lesion in the right lung. On November 13, 1972, he was admitted for further evaluation. He had been asymptomatic and had no respiratory or chest complaints, and no loss of appetite or weight was noted. Except for the usual childhood diseases he had been in good health. He denied any past history of fever, chills, weakness, or general malaise. Several years ago (1958) he had some episodes of vomiting, heartburn and epigastric discomfort, especially after spicy meals. The patient vomited blood once. He was treated with antacids, with satisfactory results. Although his current occupation was stated as a welder, it was learned that since adolescence he had worked with cattle, pigs, and sheep. On admission, physical examination and laboratory workup were unremarkable. Chest x-ray and planigram of the right lung *(Figures 1 and 2)* revealed a centrally calcified annular lesion, about 3 cm in diameter, located in the right-upper lobe. The results of skin tests for histoplasmosis, blastomycosis, coccidioidomycosis, and tuberculosis were negative. Sputum cultures for tubercle bacilli produced negative results. Cytologic studies (sputum) were normal. On November 28, 1972, he underwent exploratory thoracotomy with excision of lesion from the right-upper lobe, with preoperative diagnosis of "coin lesion."

A case of chronic localized pulmonary nodule due to Brucella suis is presented, and is followed by a review of the literature concerning Brucella organisms and pulmonary involvement.

Pathology

Gross: The specimen was a roughly rounded, firm mass measuring 3.3 cm at its greatest diameter *(Figure 3)*. The cut surface showed whitish-gray tissue with concentric calcified layers and a small central area of tissue necrosis *(Figure 4)*.

Microscopic: The lesion revealed a central area of extensive hyalinization and calcification. This area was well demarcated from the adjacent lung tissue by a thickened zone of hyalinized fibrous connective tissue containing numerous lymphocytes, epithelioid cells, and some plasma cells *(Figure 5)*. Special stains for acid fast bacilli (Ziehl-Neelsen) and fungi (Grocott) failed to reveal the presence of these organisms.

Tissue cultures for acid fast bacilli and fungi were negative. Bacterial cultures of the lesion revealed a

From the Pathology and Microbiology Services, Veterans Administration Hospital, Leavenworth.
Address reprint requests to Dr. Chavez.

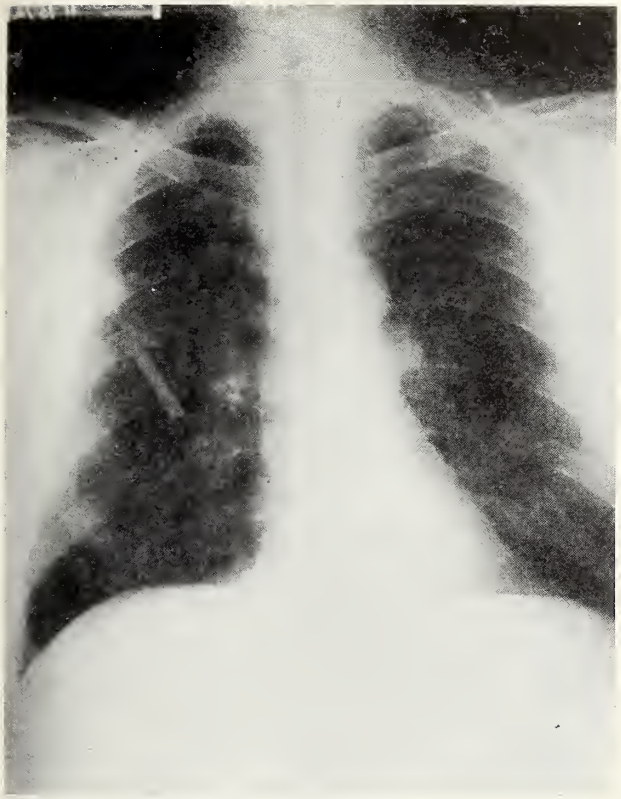


Figure 1

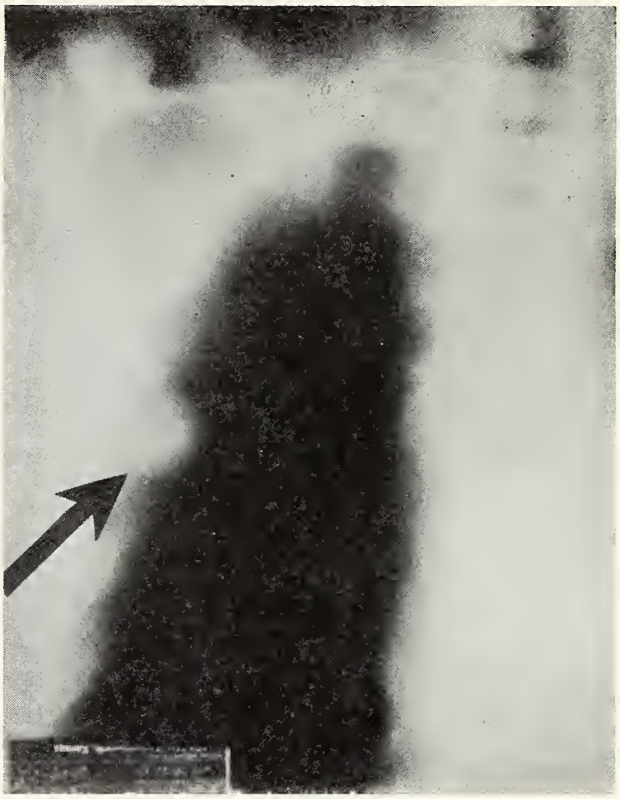


Figure 2

very small gram negative coccobacillus indicative of Brucella group. Further studies of the culture by the Center for Disease Control, Atlanta, Georgia, showed the organism to be Brucella suis.

On followup examination in February 1973, the results of chest x-ray was normal, three blood cultures were negative, and agglutination test for brucellosis was positive (1:20). When last seen, on February 10, 1975, the patient was asymptomatic, his lungs were clear to auscultation, and the chest x-ray was normal.

Discussion

Although there is extensive literature on brucellosis, pulmonary involvement by Brucella organisms has not been extensively described. Shipley,[1] in 1945, reported a case of pulmonary brucellosis which was confused with bronchogenic carcinoma. By bronchoscopic examination, a biopsy of the tumor showed no evidence of malignancy. Further studies showed that repeated agglutination test results for Brucella abortus, suis, and melitensis were positive, as was the brucellergin skin test. Haden and Kyger,[2] in 1946, reported seven cases of pulmonary manifestations of brucellosis. These cases were reported as hilar and bronchovascular infiltration, pleurisy, pleural effusion, pneumonia, and two of the cases were believed to represent pulmonary granulomas. The diagnosis of pulmonary brucellosis was made on the basis of clinical findings, the exclusion of other disease, and a positive skin test. In five of the seven cases, agglutination for brucellosis was positive. However, the causative organism was not recovered from any of the patients reported. Weed and co-workers,[3] in 1956, reported three cases of chronic localized pulmonary brucellosis. One of these cases had been previously reported by Weed,[4] in 1952. In all three cases, the lesions were surgically removed. Each proved to be a caseous granuloma from which Brucella suis was isolated by culture. Ramah and co-workers,[5] in 1959, reported another case of pulmonary granuloma due to Brucella. In this case, a wedge resection of the left-lower lobe was performed with the removal of a firm round nodular mass in which bacteriological studies showed Brucella suis. Webb,[6] in 1966, reported the fifth case of a solitary pulmonary nodule which was surgically excised. The preoperative diagnosis was histoplasmosis, but the pathologic diagnosis proved by culture was Brucella suis. In 1963, Steele[8] in a cooperative study, reported 887 male patients who underwent resection for asymptomatic solitary pulmonary nodules. These nodules were classified as follows: malignant tumors, 316; hamartomas, 65; granulomas, 474; miscellaneous lesions, 23; and pleural or chest wall tu-

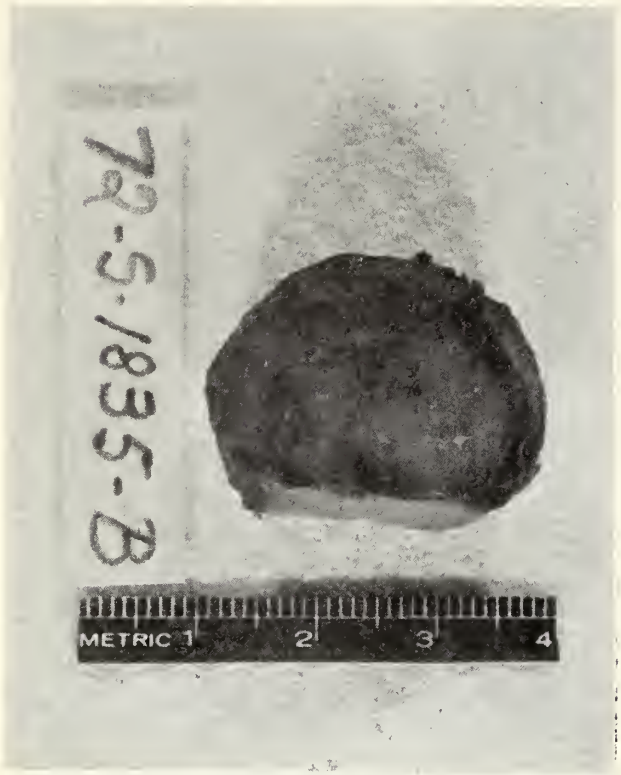


Figure 3

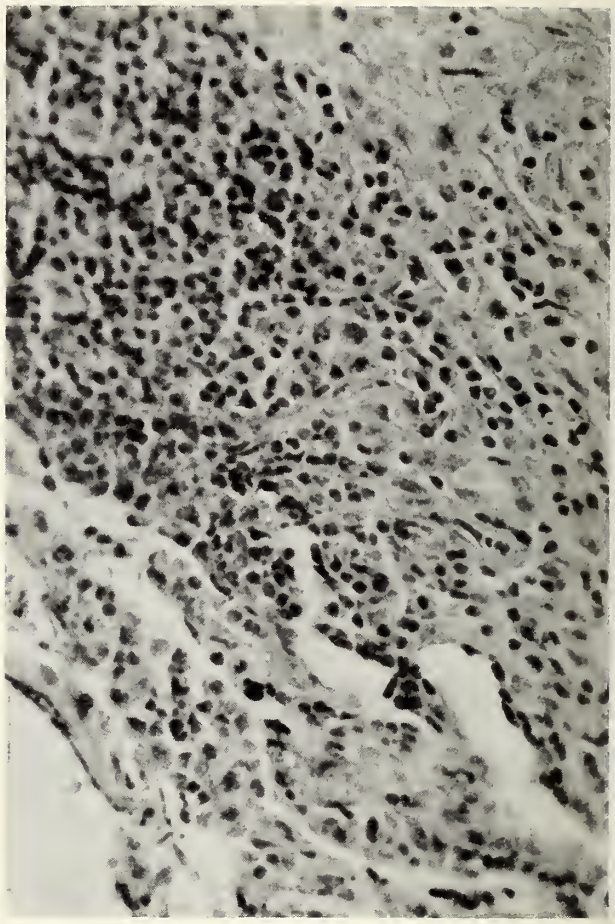


Figure 5

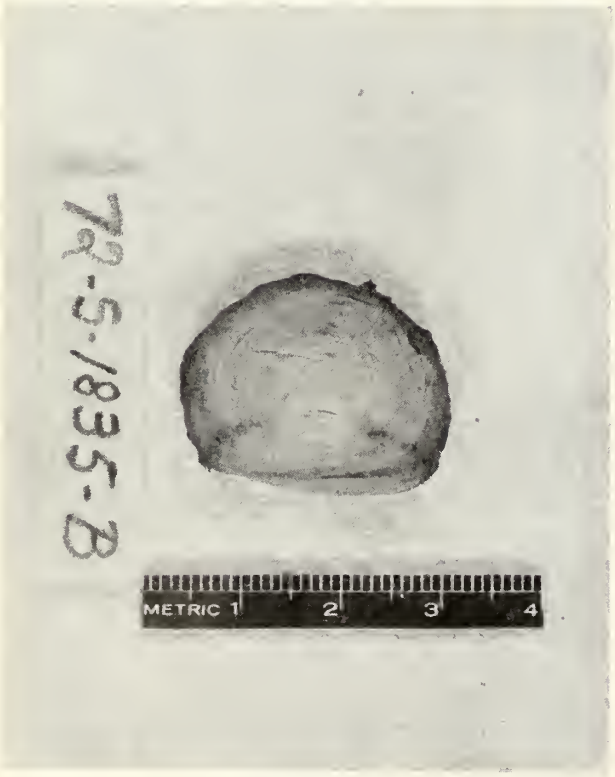


Figure 4

mors, 9. Among the granulomas, the more frequent were: histoplasmosis, 164; tuberculosis, 122; coccidioidomycosis, 98; and unidentified, 83. Roentgenographic calcification was seen in some of the granulomas; histoplasmosis was found in 15; tuberculosis in 6, and coccidioidomycosis in 5.

In the case presented, and in the other five cases previously reported, the diagnosis of Brucella granuloma was made only after cultures were performed in the surgically removed specimens. In all of these cases the causative organism was Brucella suis.

Weed and co-workers[4] emphasized that not infrequently the tissue reaction of brucellosis will simulate that of tuberculosis or some of the mycotic diseases. Only bacteriological examination of the tissue excised will identify the causative organism. Weed and co-workers[3] also wrote that it appears that the chronic, localized, pulmonary brucellosis presents about the same dilemma in preoperative diagnosis as does that group of lesions to which literature referred as coin lesion of the lung and isolated pulmonary nodule.

The finding of Brucella granulomas in organs other

than the lung has been reported by various investigators. MacDonald and co-workers,[7] in 1966, reported six cases of granulomas due to brucellosis in the spleen. Weed and co-workers[4] reported cases of brucella granuloma in the kidney, humerus, and inguinal lymph nodes.

Summary

This is the report of the sixth case, documented by culture, of chronic localized pulmonary nodule due to Brucella suis. The patient was a 49-year-old male whose chest x-ray showed a right lung lesion. He had been in good health and denied any history of brucellosis in the past. Since adolescence, he had been exposed to cattle, pigs, and sheep. With the preoperative diagnosis of "coin lesion, right lung," the patient underwent a right exploratory thoracotomy with excision of a lesion from the upper lobe of the right lung. Culture of the lesion was positive for Brucella suis. Postoperatively, three blood cultures were negative, and agglutination test for brucellosis was positive at a titer of 1:20. His postoperative course has been unremarkable.

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G-Suits and Shock

A Non-Invasive Transfusion Technique

NORMAN E. McSWAIN, JR., M.D., ***Kansas City, Kansas***

PRE-HOSPITAL emergency care delivery assumes an ever increasing role in the total health care delivery system. With it, the need for earlier transfusion to patients in shock or impending shock is becoming much more apparent. The Viet Nam conflict demonstrated the benefit of early resuscitative measures. It is apparent, however, that carrying blood or plasma on every ambulance in the state is not feasible. To help solve this problem, more and more medical societies throughout the state are teaching their ambulance attendants the use of intravenous therapy. There are, however, some disadvantages to the use of intravenous therapy in the field, as follows:

1. To infuse 1000 to 2000 cc of Ringer's lactate requires 30 minutes to 1 hour after initiating the therapy;

2. The total volume of Ringer's lactate is usually not kept within the cardiovascular space but is lost to intracellular and interstitial fluid spaces;

3. With poor lighting conditions available at accident sites, it is not always possible to adequately obtain an effective route of administration in a patient with profound shock.

Is there an adjunctive method to help overcome these disadvantages?

The accepted mode of treatment of simple fainting has been elevation of the feet, to allow the pooled blood to return to the heart-brain-lung circulation. While the survival rate from shock and its complications should measurably improve from such treatment, the relief would be short-term, until adequate replacement volumes could be infused.

With the advent of high performance jet fighter aircraft, the need for preventing blood loss into the extremities during high positive "G" maneuvers soon became apparent. The Air Force developed a pneumatic suit to squeeze the legs and abdomen to prevent this difficulty. This became known as the "G" suit.

A blanket type wrap around "G" suit was initially developed and marketed as a treatment for shock. This was followed closely by a device called pneumatic trousers, anti-shock trousers, or MAST (Medical Anti-Shock Trousers) *(Figure 1)*. The initial evaluation of these trousers demonstrated the theoretical success. In reporting their use, the Miami fire rescue paramedics found that approximately 750 cc blood is relocated from the extremities to the heart-brain-lung circulation. Since the initial reports, several pre-hospital and in-hospital uses have been demonstrated. The following cases recently treated in Kansas City, utilizing the anti-shock trousers, demonstrate this usefulness.

Case One

A 42-year-old male received a self-inflicted gun shot wound to the abdomen. His initial blood pressure on arrival of the pre-hospital care team was 60/30 mm Hg. Application of the anti-shock trousers returned the blood pressure to 90/60 mm Hg, and intravenous fluids were administered. On arrival of the patient to the emergency room, blood pressure was 120/70 mm Hg, with pulse rate of 100. Examination of the abdomen and introduction of Foley catheter in the emergency room necessitated the deflation of the older model trousers, which produced a blood pressure drop to 70/50 mm Hg. Reinflation of the trousers returned the blood pressure to 110/70 mm Hg. The patient was then transferred to the operating room with the trousers in place *(Figure 2)*. To allow removal of the trousers slowly, and while maintaining an acceptable blood pressure, 1500 cc of whole blood and 1000 cc of

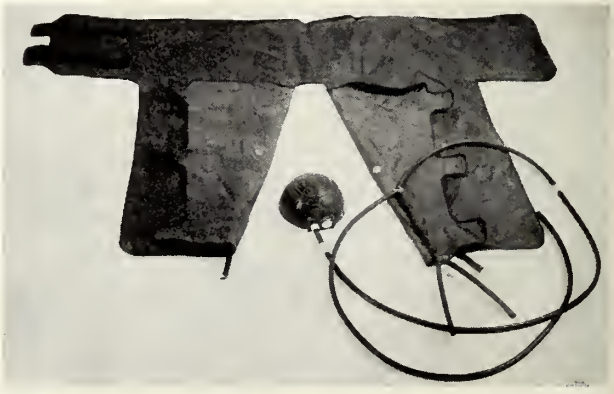


Figure 1. Anti-shock trousers open and ready for patient.

Address reprint requests to Dr. McSwain, Department of Surgery, KUMC, Kansas City, KS 66103.

Ringer's lactate was administered in the operating room. Abdominal exploration was then accomplished, repairing the small bowel, mesenteric vessels, and iliac vessel lacerations. The patient recovered and was discharged without complications.

Case Two

A 25-year-old female with acute abdomen secondary to ruptured ectopic pregnancy was first seen by the pre-hospital care team with a non-obtainable blood pressure. Initial application of the anti-shock trousers raised the blood pressure to 50/0 mm Hg. Ringer's lactate was administered, and the patient arrived at the emergency room with blood pressure of 100/60 mm Hg; hemoglobin, 8.2 gm/100 ml; hematocrit, 26.8 per cent. Additional 2000 cc of Ringer's lactate was administered to the patient while slowly deflating the trousers and maintaining blood pressure at 120/70 mm Hg. The 2700 cc of clotted blood was found in the abdomen, secondary to a ruptured ectopic pregnancy. The patient was discharged without complications.

The two cases presented are examples of more than 55 patients treated in the Kansas City, Kansas area in the past five months utilizing this technique.

Discussion

Our experience in utilizing the anti-shock trousers at the Medical Center and the private hospitals in the Kansas City area, along with the experience others have had throughout the country, leads us to believe that many lives can be saved with this technique in the rural areas of the state, where long response time and traveling distances may be involved. The technique provides: (1) a non-invasive transfusion of up to two units of blood with immediate return of blood pressure toward normal limits; (2) it fills the cardiovascular system, so that previously deflated veins become visible to the technician or physician for the intravenous feeding; (3) it replaces the blood loss with whole compatible blood from the patient, rather than crystaloid fluids which are rapidly lost into interstitial and intracellular fluid compartments; and (4) it provides a means of shock management by ambulance attendants who have not yet had experience in intravenous techniques.

Our initial evaluation of the anti-shock trousers leads us to believe that the process of returning blood pressure toward normal limits early in shock state prevents, or tends to prevent, such complications as adult respiratory distress syndrome and acute renal failure. This, however, is only an impression. We do not have enough numbers to conclusively make such a statement. The

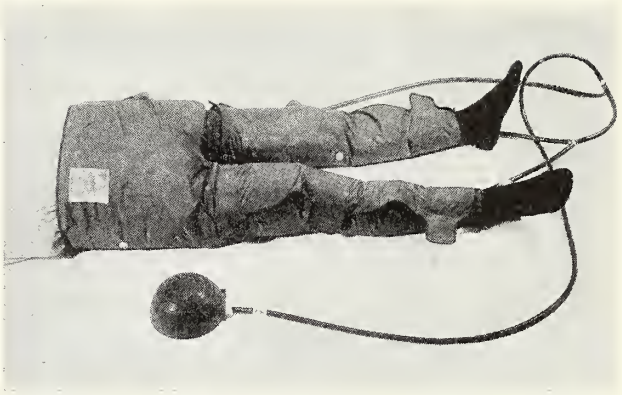


Figure 2. Anti-shock trousers in place and inflated. Compartments can be inflated or deflated separately as necessary to evaluate and treat the patient.

effectiveness of this treatment, however, in the management of blood volume problems as represented by pulse and blood pressure has been well demonstrated.

Indications

Treatment with the anti-shock trousers is indicated in any type shock during which the patient would benefit from the increase in the blood volume. The only contraindication to its use seems to be cardiogenic shock, although there is some indication that it could also be beneficial in this field. The initial feeling was that it should not be used for management of shock with injuries above the diaphragm, because of a decrease in respiratory excursion or decrease in vital capacity as reported by Espenoza.[1] Such has not been our experience, nor the experience of Lilja.[2] The usefulness of this technique in the emergency room situation, with the possible benefits of the management of postoperative bleeding problems, warrants the presence of pneumatic trousers in every emergency room and every ambulance in the state. The training in its use should be expanded to include ambulance attendants, physicians, and nurses. It is hoped that this technique will be accepted as standard by the American College of Surgeons Committee of Trauma and will become required equipment on all ambulances on the same level as adequate splints, dressings, and other emergency equipment is required.

Procedure for Removal

More problems have been encountered in incorrect removal of the trousers in the emergency department than in inappropriate application in the field. Therefore, the following guidelines must be kept in mind:

1. Rapid deflation will remove the transfused blood and produce a 40 to 60 mm Hg drop in blood pressure;

(Continued on page 441)

Subdural Hematoma Scans

Accuracy of Radioisotope Brain Scan

DEWEY K. ZIEGLER, M.D. *and*
IJAZ AHMAD, M.D., *Kansas City, Kansas*

RADIOISOTOPE brain scan results usually are positive in subdural hematoma, but there has been wide variation in reported accuracy of the procedure.[1] This information is of great importance, since it frequently contributes to the decision as to the necessity of angiography.

This study analyzes the results of rapid sequential and delayed radioisotopic brain scanning in 20 adult patients with proven subdural hematomas.

Method

Records of all patients admitted to the University of Kansas Medical Center from January 1963 to December 1972 with the discharge diagnosis of subdural hematoma were reviewed. Those cases in which the diagnosis was confirmed by surgery or autopsy, and in which delayed brain scans had been performed were selected for this study. Patients with acute subdural hematoma and those with scalp lacerations or hematoma were excluded. Operative and pathological reports were reviewed to ascertain the localization and chronicity of the lesion.

Results

There were 20 patients in the series receiving 21 delayed brain scans, with 9 receiving also rapid sequential scintiphotography. The radioisotope used in 16 patients was Technetium 99 pertechnetate; Hg 203 was used in 4 patients; and one patient received Hg 197 chlormerodrin.

Of 13 patients with unilateral lesions, 10 showed increased radioisotope uptake on the side of the lesion, although in only 5 was the lesion described as characteristically crescent shaped. The brain scan was reported as showing the increased uptake on the incorrect side in one patient with a unilateral lesion. The brain scan was normal in two patients with unilateral lesions. In one of these, the interval between injury and scan was 16 weeks, and a thick membrane was present on surgical exploration. Rapid sequential scintiphotography was performed in six of the patients with unilateral lesions, with normal results in two.

A membrane surrounding the hematoma was reported at surgery in 9 of 13 patients with unilateral lesions. In eight of these nine patients, the brain scan was positive on the side of the lesion; it was negative in one.

Bilateral Lesions

Seven patients had bilateral subdural hematomata. "Well formed" membranes at surgery were described in six patients. Increased uptake of radioisotope was reported on only one side in six of the seven cases. Brain scan was reported normal in one patient, and in none of the cases did the brain scan reveal bilateral lesions. Three patients with bilateral lesions had rapid sequential scintiphotography, and the study was normal in two.

Discussion

Reported accuracy of the brain scan in detection of subdural hematomata has varied from 17 to 100 per cent, with the present series showing an accuracy of 59 per cent. Of particular interest in the present series is the failure of the brain scan to detect bilateral lesions.

Other series have reported missed diagnoses of bilateral lesions, but chiefly because increased symmetrical activity was misinterpreted as normal.[2–5] In the present series, in contrast, a lesion on one side was diagnosed (6 of 7 cases), with the contralateral lesion being missed. The present study confirms that in rare cases a false positive scan may occur.

The present study further revealed that patients with proven membrane formation may not be diagnosed by brain scan. According to Cowan *et al.*,[1] all patients with well-developed membranes showed an abnormal scan.

The present report similarly is in contrast with a previous one in the accuracy of rapid sequential scintiphotography in the diagnosis of these lesions. Hopkins and Kristensen[6] in their series reported that in all 49 patients with subdural hematomata (6 with unilateral, 43 with bilateral lesions) this procedure indicated the lesion. In the present series, in contrast, two out of six

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with unilateral lesions, and two out of three with bilateral lesions produced false negative findings.

Summary

The correlation of radioisotopic brain scan findings with surgical or autopsy findings in 20 patients with proven subdural hematomata were studied. The radioisotopic brain scanning was either normal or falsely localizing in 3 of 13 patients with unilateral lesions. Six of the seven patients with bilateral lesions showed only unilateral abnormality; the scan was normal in one. Rapid sequential scintiphotography was performed in nine patients. It was normal in four. There was a slightly higher incidence of false-negative radioisotopic brain scans in patients with proven membrane formation.

These findings emphasize the importance of strongly considering bilateral subdural lesions, despite unilateral abnormality on the brain scan.

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G-Suits

(Continued from page 439)

2. Deflation should be accomplished slowly, using IV fluid replacement to maintain blood pressure. This procedure may take 30 minutes to one hour. Deflation is often completed in the operating room.

Conclusion

There have been no complications related to the use of the trousers in the over 55 patients when proper procedure for application and removal was followed. In spite of cases with massive trauma, no patients developed adult respiratory distress syndrome or acute renal failure. It is, therefore, recommended that pneumatic trousers be included in the armamentarium of physicians and ambulance attendants dealing in pre-hospital care of patients who develop shock.

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Patient Induced Malfunction

The Pacemaker Flip-Flop Syndrome

LILIA RODRIQUEZ TOCKER, M.D., CARLOS R. SALGADO, M.D. ***and*** **REBECCA EDIGER, P.A.,** ***Wichita***

CARDIAC PACEMAKER failure as a direct result of patient induced electrode displacement is of clinical importance, and should be considered in the differential diagnosis of malfunctioning pacemaker systems. Transvenous passage of the intracardiac electrode and attachment of the lead to a subcutaneously implanted pulse generator is now the most commonly employed procedure utilized in implantation of cardiac pacemakers—a setup which is particularly susceptible to patient manipulation. In view of the growing number of patients receiving such cardiac pacemakers, and the increased longevity of cardiac patients so treated, the malfunction of the system due to patient manipulation is being encountered more and more frequently.

The complication of patient induced cardiac pacemaker malfunction was first described by Bayliss and associates[1] in 1968, as the "Pacemaker Twiddler's syndrome." The report concerned an elderly widow who

A case of patient induced malfunction of a cardiac pacemaker system, labeled the Pacemaker Flip-Flop syndrome, is presented.

Address reprint requests to Dr. Salgado, The Wichita Cardiac Clinic, 1035 N. Emporia, Suite 290, Wichita, KS 67214.

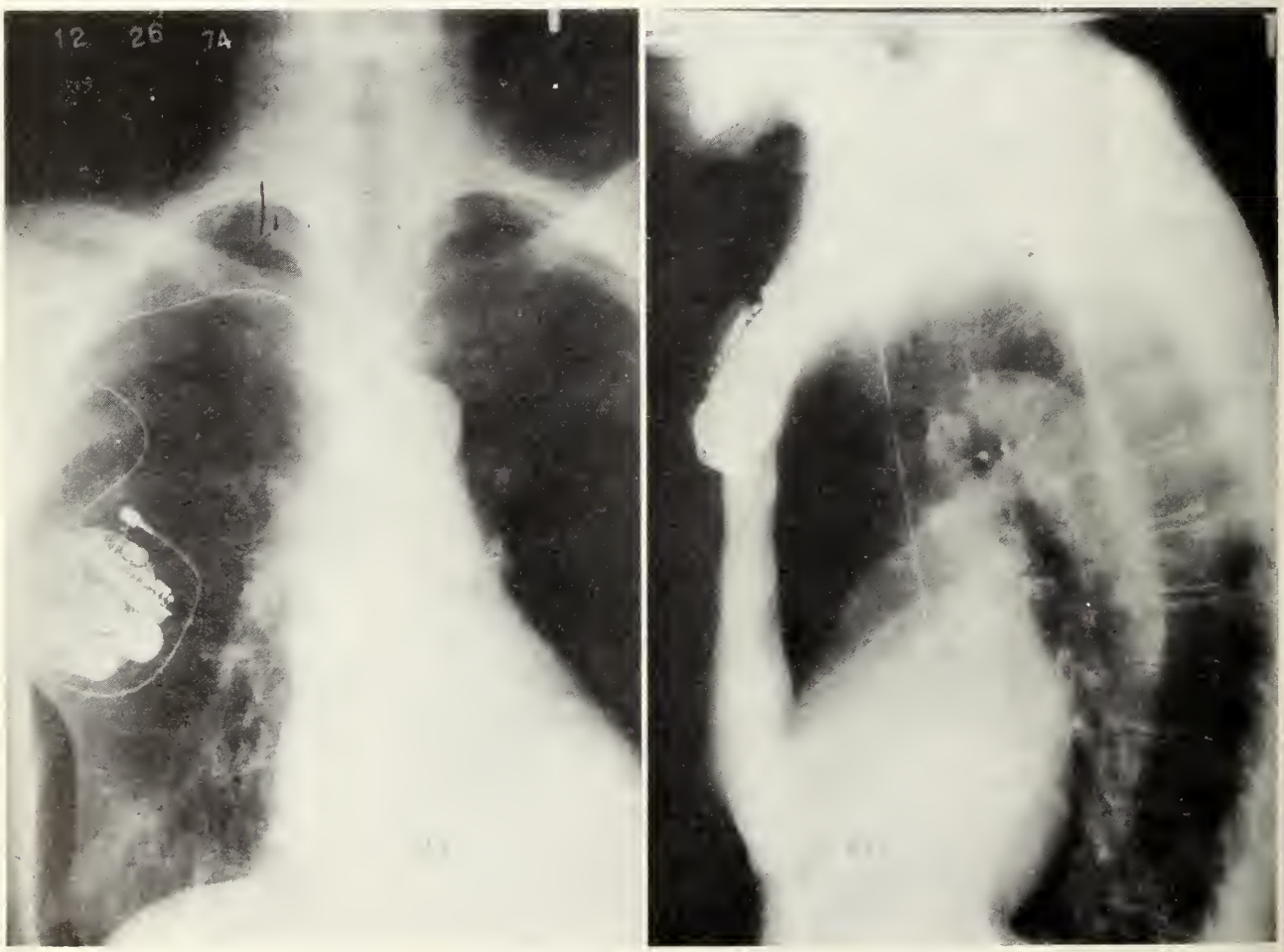


Figure 1. The position of the pulse generator and electrode immediately after the initial implantation, December 26, 1974.

twisted in its subcutaneous pocket the pulse generator of her implanted cardiac pacemaker, winding up the electrode catheter in four complete turns, similar to the wind-up of the reel on a fishing rod. Many such cases have since been recognized.

A variant of this syndrome, illustrated by the following case history, has been appropriately labeled "Pacemaker Flip-Flop syndrome."

Case Report

An 84-year-old female was admitted to the hospital on December 14, 1974, because of vertigo and chest pain. An electrocardiogram on admission showed her heart rate to be 30 to 36 beats per minute. The condition was diagnosed as atherosclerotic heart disease with atrial fibrillation, with advanced degree of atrioventricular (AV) block, and a documented episode of complete AV block. The patient's condition was improved with the implantation of a temporary cardiac pacemaker.

A permanent cardiac pacemaker was implanted on December 20, 1974. A Cordis Omni-Stanicor demand pacemaker pulse generator, programmed to 70 beats per minute, was placed in a subcutaneous pocket high on the right-upper anterior chest region. The pulse generator was fixed in position with one suture placed through the fascia of the pectoralis major muscle. The patient was in a completely satisfactory condition and was pacing well upon completion of the operation. *Figure 1* shows chest films immediately after the initial implantation of the permanent pacemaker. It should be noted that this patient was now alert and, despite moderate hearing loss, was capable of understanding and answering questions.

She was readmitted to the hospital on May 14, 1975, from a nursing home after a visiting hospital staff nurse noted the pulse rate had been recorded at 65 beats per minute (5 beats per minute below the programmed rate). The patient had frequently been observed to manipulate her subcutaneously placed pulse generator. This pulse generator, easily palpable in its subcutaneously placed pocket, had migrated inferiorly and laterally to breast area anterior to the right anterior axillary fold. X-ray at this time *(Figure 2),* compared with the

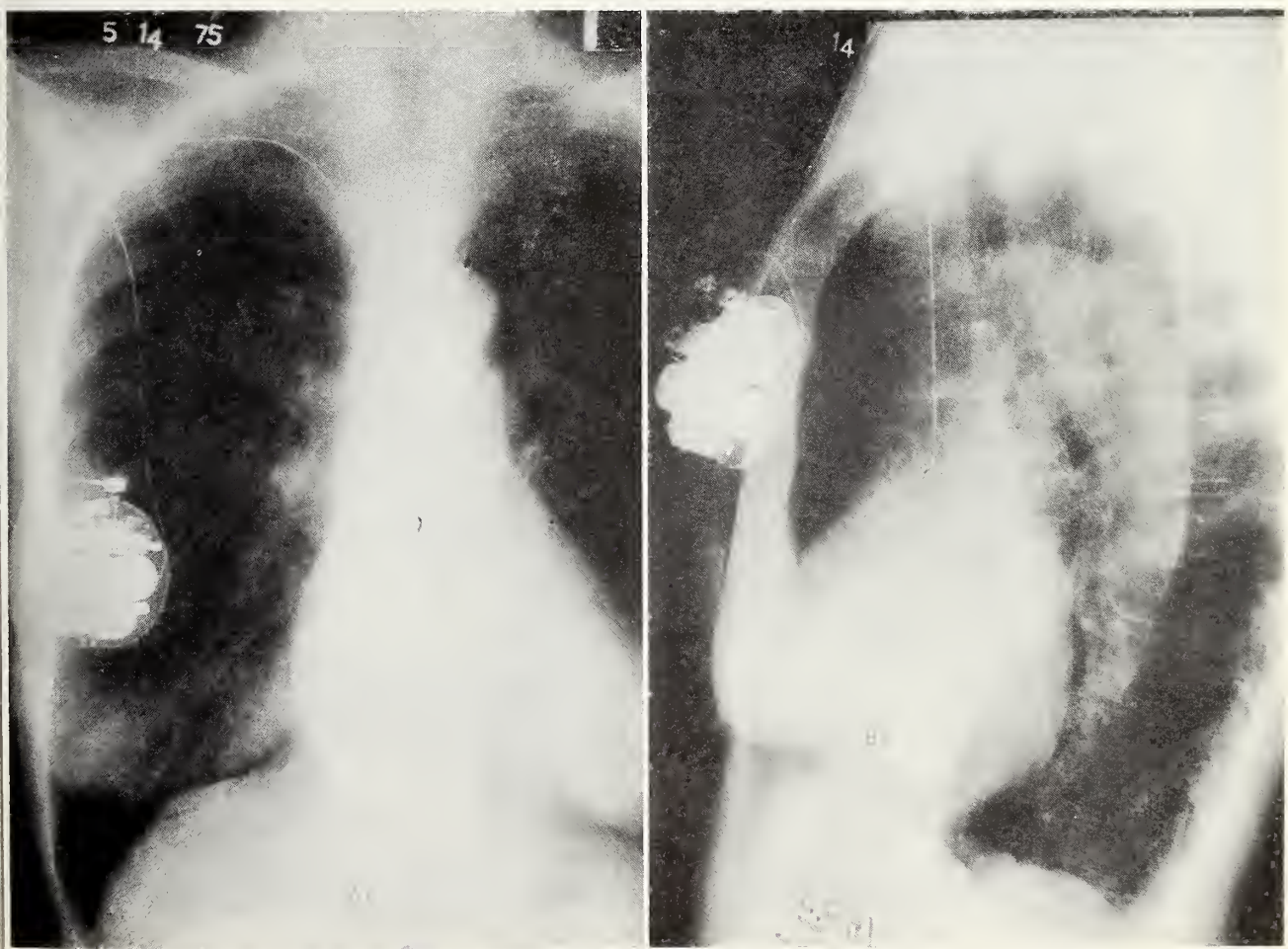


Figure 2. On readmission May 14, 1975, reversed pulse generator with changes in electrode position.

x-ray taken immediately after her original pacemaker implantation *(Figure 1)*, revealed that the migrated pulse generator had been "flip-flopped" from its original position. Furthermore, careful inspection of the lateral x-ray revealed some change in the intracardiac position of the electrode. A chest x-ray *(Figure 3)* the next day (May 15, 1975) revealed that the patient had once again flipped the pulse generator back to its original position. The patient admitted, and demonstrated how she reached over to the pulse generator area in front of the right anterior axillary fold, often unconsciously, with her left hand and easily flip-flopped the powerpack of the cardiac pacemaker. It was noted that following this maneuver, the electrode lead, which had been posterior to the pulse generator, could now be palpated under the skin anterior to the battery unit.

Although pacing appeared to be adequate most of the time, because of the danger of further displacement of the intracardiac electrode the powerpack of the pacemaker unit was repositioned from its subcutaneous pocket to a newly formed pocket located at a higher and more medial location under the pectoral muscles on May 16, 1975. The intracardiac electrode was also repositioned *(Figure 4)*. The patient was in satisfactory condition with excellent pacemaker function following this procedure.

There has been no recurrence of this patient's activity of flip-flopping her pacemaker pulse generator to date.

Discussion

Patients in whom cardiac pacemakers have been implanted, particularly those in whom the powerpack has been housed in a subcutaneous pocket, may consciously or inadvertently so manipulate the pulse generator as to "reel in" the lead of the transvenously passed intracardiac electrode or of the epicardial electrode,[1] or may flip the powerpack back and forth or over and over in enlarged subcutaneous pockets (Pacemaker Flip-Flop syndrome), causing displacement of the cardiac electrode. Such patient induced problems should be considered in the differential diagnosis of all cases of malfunctioning pacemakers, especially those of abrupt failure.

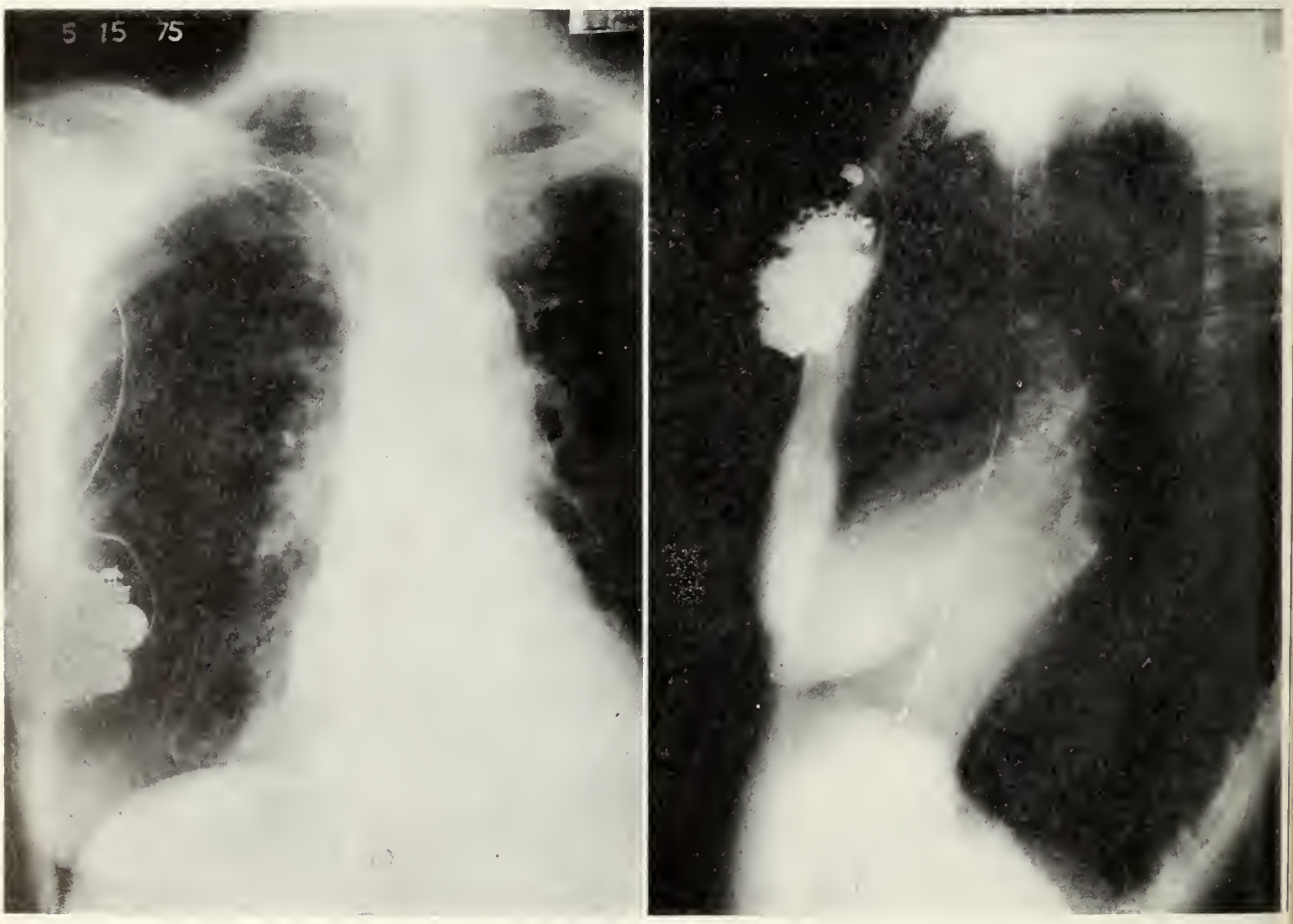


Figure 3. The pacemaker pulse generator flip-flopped again on the following day.

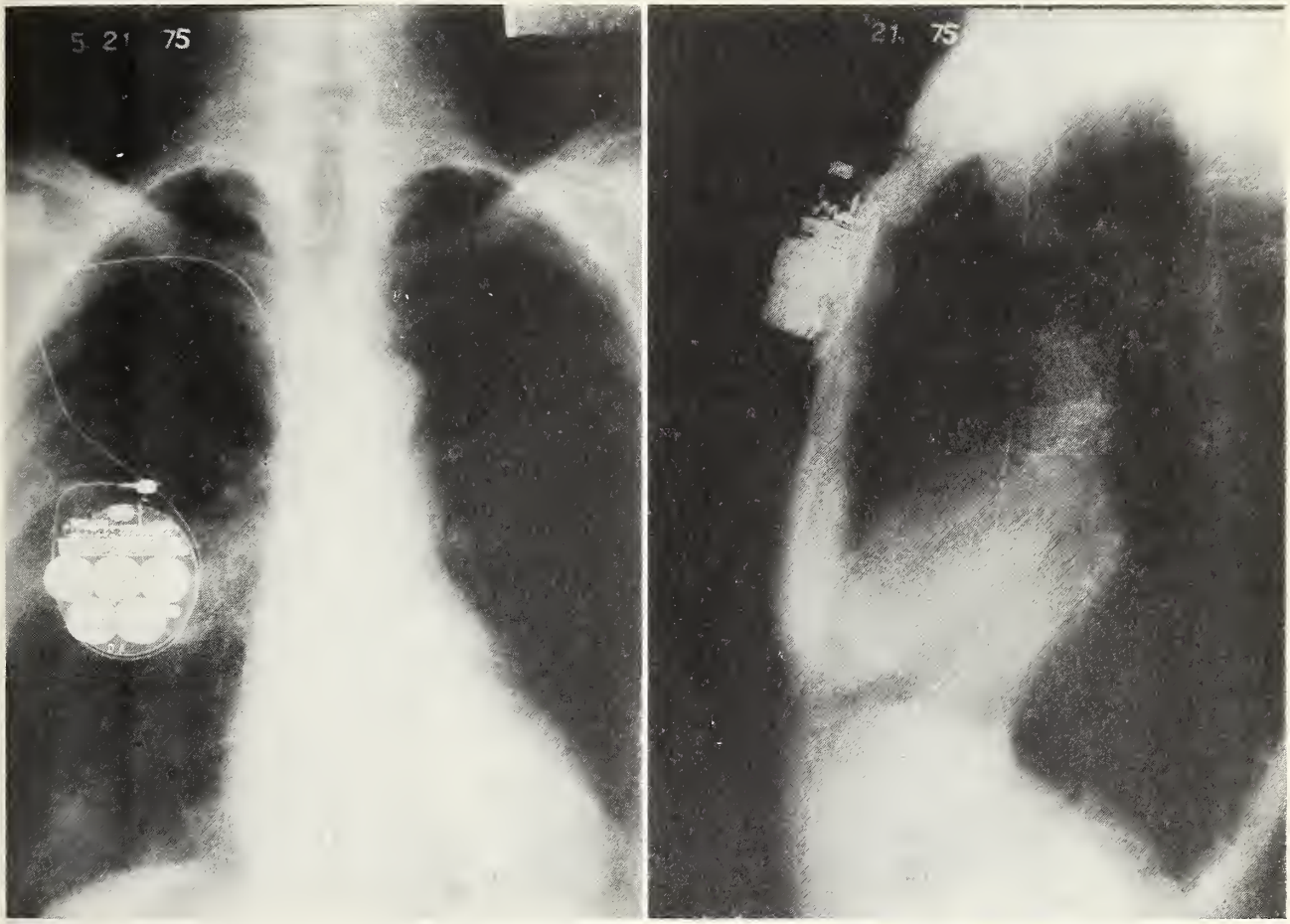


Figure 4. The pacemaker after repositioning the intracardiac electrode and replacing the pulse generator in a subpectoral pocket on May 21, 1975.

Manufacturers of various units have provided special perforations in the pulse generators for placement of sutures to fix the unit in position, to avoid such complications as well as migration of the unit. In our experience, however, such measures have not eliminated the problems, nor have multiple ligatures securing the leads in place. The use of a polypropylene mesh pouch has also been advocated. Cordis Corporation has produced a "butterfly" attachment to prevent displacement of the transvenous leads.

In thin individuals, particularly in geriatric patients who are not mentally competent and who cannot be counseled or given guidance, such problems can usually be avoided by initially placing the unit under the pectoral muscles. All measures to keep the pockets dry at the time of surgery and free of fluid accumulation, by such measures as pressure dressings for at least five days after surgery, will also help to provide a pocket which fits the powerpack tightly to prevent migration and displacement. If a dry pocket cannot be attained at the time of surgery, a short period of postoperative suction should be used, removing the suction catheter from the battery box pocket as early as feasible to avoid possible secondary infection.

Once these problems have occurred, surgical replacement of the battery unit in a more suitable pocket, usually under or between the pectoral muscles, offers the best solution.

Summary

A case of patient induced malfunction of a cardiac pacemaker system, labeled the Pacemaker Flip-Flop syndrome, was presented. It is emphasized that this syndrome, along with the more common Pacemaker Twiddler's syndrome, should be considered in the differential diagnosis of cardiac pacemaker malfunction. Methods of prevention and treatment of these complications were discussed.

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Cancer Data Service

Stomach Carcinoma Distantly Metastatic at Diagnosis, 1945-1974

F. F. HOLMES, M.D., SUZANNE OLSON, B.S.J.,
CHIP LASH, B.F.A. *and* J. MITCHELL HENRY, B.S., *Kansas City, Kansas*

Ed. Note: This is the second of an eight-part series reporting on the survival of 3,842 patients with carcinoma distantly metastatic at diagnosis (Stage IV) who were registered at the Cancer Data Service (CDS), formerly the Cancer Information Center. For previous installment see the May 1976 issue.

FOR REASONS not yet defined, the incidence of stomach carcinoma in the United States has been decreasing since about 1935.[1] This decrease, which has been the subject of many recent studies, has been compared to the apparent increase in incidence in countries like Japan and Finland. Results of these studies have indicated that environmental factors, not genetic, are largely responsible for gastric carcinoma.

A great proportion of stomach carcinomas are staged advanced at initial diagnosis, and there has been a high frequency of advanced stomach carcinoma diagnosed postmortem. Reported prevalence rates for stomach carcinoma distantly metastatic at diagnosis range between 30 and 40 per cent of all stomach cancer.[2–4]

Advanced stomach tumors are usually large, replacing wide areas in the stomach. They are frequently a combination of fungating and invasive types. It is not uncommon for advanced stomach carcinoma to have direct extention to the liver, diaphragm, transverse colon and hilus of the spleen, and to have metastases to regional lymph nodes, rectal shelf, ovary, lung, and bones.[5]

Along with the common symptoms of gastric carcinoma (epigastric pain, weight loss, tenderness over epigastrium, and abdominal distention), common signs of advanced carcinoma of the stomach include ascites, enlarged liver, Virchow's nodes, and rectal shelf.[6]

As presence of distant metastases is considered an indication of extremely poor prognosis, palliative procedures are indicated when treating most advanced carcinomas of the stomach. Surgery for advanced disease is indicated only to prove diagnosis or to relieve conditions such as pyloric obstruction. Combination programs of 5-fluorouracil and radiotherapy are among the most promising modes of therapy.

A study of the natural history of advanced gastric carcinoma reported a mean survival time of 7.5 months for all patients studied from the time their advanced disease was pronounced incurable.[7] Median survival reported was four months. Survival rates for treated advanced gastric carcinoma have, unfortunately, not proven to be much better. Reported survival rates are shown in *Table I.*

TABLE I
CDS DATA

Years	*1* %	*3* %	*5* %	*7* %	*9* %
1965-1974	15.3	0.0	0.0	0.0	0.0
1945-1964	8.1	1.0	0.5	0.5	0.5

During the period 1945-1974, the Cancer Data Service registered 705 cases of stomach carcinoma. Of these, 275 (39%) were diagnosed as distantly metastatic. The status of these 275 patients at last followup was as follows:

Alive with disease	13	4.7%
Dead without obvious disease	7	2.5%
Dead with disease	254	92.4%
Unknown status	1	0.4%

Data for survival comparing the 197 patients diagnosed from 1945-1964 and the 78 patients diagnosed from 1965-1974 are displayed on the graph *(Figure 1).*

Summary

Stomach carcinoma shows an apparent, though not statistically significant, increase in survival at one year in the last decade of the CDS data, with subsequent years being about equal in both time periods, 1945-1964 and 1965-1974. Other reported data vary slightly from our figures, but a slight improvement at one year in our data is perhaps noteworthy. Surgery continues to be the

This study was supported in part by the Mid-America Cancer Center Program and the American Cancer Society-Kansas Division, and is presented in cooperation with the State of Kansas Department of Health and Environment.

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OTHER DATA

Years

Source	*1* %	*3* %	*5* %	*7* %	*10* %
Albany CTY[8]	11.0	2.0	0.0	0.0	0.0
Cancer R&R[9]	—	—	2.0	—	—
Recent trends[10] ..	10.0	2.5	1.5	—	—
Cancer prog.[11] ...	—	—	—	—	—
Ohio[12]	17.0	2.0	0.0	0.0	0.0

Figure 1

primary mode of therapy, with an increase in chemotherapy *(Table II)*.

TABLE II

	No Treatment %	*Surgery* %	*Radiation* %	*Chemotherapy* %
1945-1964	43	46	4	10
1965-1974	39	51	3	26

Acknowledgment

Kansas hospitals contributing cancer case data to this study are: St. Joseph's of Concordia; Mercy of Fort Scott; St. Catherine of Garden City; Halstead of Halstead; Sheridan County of Hoxie; Bethany Medical Center, Kansas University Medical Center, and Providence-St. Margaret Health Center of Kansas City; Ransom Memorial of Ottawa; Mt. Carmel Medical Center of Pittsburg; Stormont-Vail of Topeka; and St. Joseph Hospital and Rehabilitation Center and Wesley Medical Center of Wichita.

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SELF-EVALUATION FOR PHYSICIANS

A Hypertension Medical Knowledge Self-Assessment Program believed to be the most extensive self-assessment program ever undertaken, will be introduced to the nation's physicians in January. The program is being developed by the Editorial Board of *Dialogues in Hypertension* in conjunction with the National Board of Medical Examiners, in cooperation with the National High Blood Pressure Education Program, the Council for High Blood Pressure Research of the American Heart Association, and the National Kidney Foundation.

Beginning in January with a confidential pre-course evaluation, the program will continue through early 1978. Participating physicians will receive a syllabus titled "Guide to the Clinical Management of Hypertension," containing a summary of hypertension clinical management information, four audio cassette tapes in which national authorities review current concepts in the detection, diagnosis and treatment of essential and secondary hypertension, and a confidential post-course self-assessment.

The Hypertension Medical Knowledge Self-Assessment Program is acceptable for 40 prescribed hours by the American Academy of Family Physicians. In addition, as an organization accredited for continuing medical education, the American Heart Association certifies that this continuing medical education offering meets the criteria for 40 credit hours in Category I for the Physician Recognition Award of the American Medical Association. The self-assessment program is computerized to assure accuracy and confidentiality, so only the physician taking the self-assessment evaluations will know his or her score.

Physicians who wish to participate in the hypertension medical knowledge self-assessment program may write to: Health Learning Systems, Inc., PO Box 7929, Philadelphia, PA 19101.

Case Reports

UNRECOGNIZED OVIDUCT PREGNANCY AND THERAPEUTIC ABORTION BY UTERINE ASPIRATION

Two cases of an oviduct pregnancy not recognized during therapeutic abortion by transcervical uterine aspiration are reported.

With the increased employment of and familiarity with transcervical aspiration for early (5-8 weeks amenorrhea) therapeutic abortion, the gynecologist is tempted to omit certain standard laboratory determinations. Proponents of menstrual evacuation method, in particular, suggest that it is unnecessary to confirm uterine gestation by immunoassay for human chorionic gonadotrophin (HCG) in blood or urine, or by histological examination of tissue removed from the uterine lumen. They argue that uterine aspiration will remove embryo and trophoblast if present and that pregnancy testing and histological examination merely add to the inconvenience, expense, and emotional duress of pregnancy termination.

The following case histories of two patients with oviduct pregnancies, who unwittingly requested therapeutic abortion, are from the author's practice when he performed some 1,000 early (5-8 weeks amenorrhea) outpatient pregnancy terminations by transcervical aspiration under paracervical nerve block anesthesia.

Case One

A 29-year-old white female, gravida 4, para 2, living children 2, with a Dalkon shield in utero for the past two and one-half years and with six weeks amenorrhea, asked for therapeutic abortion. Immunoassay for HCG had not been done but the patient had been experiencing breast soreness, nausea, vomiting, and fatigue for two weeks. Her uterus was small, anterior, and slightly tender during pelvic examination. The tail of the IUD was seen to exit from the cervical os. Under paracervical nerve block anesthesia, the cervix was dilated to 6 mm, with uterine packing forceps and uterine contents evacuated by Karman cannula and 60 cm Hg vacuum. On gross examination, tissue aspirated was compatible with a four-week (after conception) uterine gestation. The Dalkon shield was easily removed with uterine packing forceps. Estimated blood loss was 50 ml.

Three days later, the patient complained of fever (38.9C) and severe suprapubic cramps. Vaginal bleeding had not occurred after uterine aspiration. On pelvic examination, the uterus was slightly enlarged and slightly tender. The left adnexus was slightly tender but not enlarged. In the belief that the patient was suffering from endometritis and adnexitis, a regimen of minocycline by mouth was initiated. Midline suprapubic cramps and fever ceased shortly thereafter. She continued to have mild left pelvic pain which increased markedly 17 days after uterine aspiration. The left adnexus was moderately tender on examination but not appreciably enlarged. There was no indication of HCG in urine. Laparoscopy performed the next day (on the 58th day of amenorrhea) revealed the ampulla of the left oviduct to be violaceous and enlarged to 2.5 x 2.5 x 2.5 cm. A corpus luteum was in the left ovary and 5 ml of dark-red liquid blood was present in the pelvis. Laparotomy, removal of the left ampulla, left and right infundibulum (for elective sterilization) followed. Histologic examination of the left ampulla showed degenerated placental villi surrounded by hemorrhage and inflammation, suggesting an aborted oviduct pregnancy.

Case Two

A 26-year-old white female, gravida 2, para 2, living children 2, who was using the Ogino-Knaus method and had had her last normal menses 7 weeks previously, produced HCG in the urine. She desired pregnancy termination. She had been having light vaginal bleeding during the past 14 days. Her uterus was small and slightly tender. Adnexa were also small but not tender. Uterine aspiration was done under paracervical nerve block anesthesia with a 6-mm diameter Karman cannula. Tissue removed from the uterus was compatible with five weeks (after conception) uterine gestation. Grossly necrotic tissue was not seen.

Twelve days after aspiration she complained of continued vaginal bleeding, lower abdominal cramps, and chills. Uterus was enlarged to eight weeks, and very tender on examination. Adnexal tenderness and enlargement were not appreciated. Uterine aspiration was repeated to ensure complete evacuation but no tissue was obtained. The patient was started on minocycline therapy by mouth.

Twenty days after the initial aspiration (or 69 days after her last normal menses), the patient reported that although she became asymptomatic within two days after initiating oral antimicrobial medication for endometritis, moderate lower abdominal cramps and vaginal bleeding recurred one week later. During the next day, HCG was detected in her urine and she experienced severe right-lower abdominal pain. At laparotomy on that same day, one liter of hemoperitoneum and a 4.5-cm diameter ampulla of the right oviduct, ruptured and bleeding, were seen. The right and left oviducts were both adherent to the lateral pelvic walls, but the right ampulla and infundibulum more severely so. Right partial salpingectomy was done. Histology showed salpingitis and fusion of the right fimbria and a large blood clot and trophoblastic villi in the lumen of the right ampulla.

In neither case was histologic examination of tissue (which was probably decidua) aspirated from the uterine lumen performed. In fact, when dealing with early outpatient therapeutic abortions, it is the usual practice in our institution to require histologic examination of removed uterine tissue only when trophoblastic disease is suspected. We rely on a followup pelvic examination done two-four weeks after aspiration for detection of persisting uterine pregnancy. In the event no tissue, except blood, is aspirated from the uterine lumen, urinary examination for HCG is usually performed. For patients with menses overdue merely 7-10 days, assay for HCG in urine is usually not required prior to uterine aspiration. Because the usual office pregnancy test consists of a not very sensitive agglutination slide or test tube method designed to detect 1,000 to 1,500 IU of HCG/liter of urine, it is possible to have negative pregnancy tests in women with early gestation. Those women whose menses are delayed as much as 7-14 days, and who also have negative pregnancy tests, have a 40 per cent chance of actually being pregnant.

It is argued by some that delaying uterine aspiration until the pregnancy test becomes positive increases patient anxiety, and that purposeful omission of pregnancy testing before uterine aspiration may spare a patient emotional duress and guilt about abortion. Furthermore, histological examination of aspirated tissue can cost the patient an additional $45-50, and occasionally the pathologist may also miss sectioning trophoblast and, therefore, will be unable to confirm removal of uterine pregnancy. However, in view of our experience with these two cases, perhaps removal of uterine pregnancy by as-

piration should in the future be regularly confirmed by histology. If trophoblast is not seen, assay for HCG in blood or urine should be performed to ensure that the patient does not continue to be pregnant in the uterus, oviduct, or ovary. In the case of the second patient, the 21-day interval between aspiration and laparotomy could have been shortened considerably had histological examination of tissue aspirated from the uterus been done. Tubal rupture, hemoperitoneum, hypotension, and blood transfusion could have been avoided.

Note: A list of references is available from the author, Department of Gynecology and Obstetrics, KUMC, Kansas City, KS 66103.

Cesar Villanueva, M.D., Kansas City, Kansas

SPONTANEOUS CYTOMEGALOVIRUS MONONUCLEOSIS

Fifteen cases of cytomegalovirus (CMV) mononucleosis were detected by the Kansas University Health Service during two and one-half years. This university then had a floating population of 18,000, with a preponderance of males to females in the radio of 3:1 in the age group of 18-26 years. The criteria on which the diagnosis was established were as follows:

1. A clinical picture of protracted illness with fever, malaise, generalized ache, and often complaints of throat pain of undetermined origin, and hematologic changes indentical to those of mononucleosis;
2. Repeatedly negative heterophil agglutination test results;
3. Isolation of the virus from urine and other sources, such as pharyngeal secretions, saliva, feces, and WBC;
4. A considerable and appropriate timed rise of antibody titer against CMV as demonstrated by complement fixation and indirect hemagglutination tests;
5. Exclusion of such diseases as those caused by elementary body virus, adeno-virus, rubella, herpes simplex and Toxoplasma gondii, which may occasionally cause heterophil negative mononucleosis.

The study of patients who contracted CMV mononucleosis indicates that CMV mononucleosis can occur spontaneously in the age group of 18 to 26 years, with females affected three times more often than males. The disease did not show any significant racial affinity. It was insidious in onset. The initial complaints in most of the cases were fever (usually low grade), malaise, generalized aches, and sore throat. The disease ran an irregular course. None of the patients appeared to be seriously ill, except for the two who developed the complication of Guillain-Barré syndrome. Eleven patients complained of soreness of throat at some time during the course of their illness and manifested pharyngeal erythema with or without anterior or posterior lymphadenopathy. Among them, exudative pharyngotonsillitis was seen in two patients; a culture of one revealed beta hemolytic strep, and the other no pathogen. During the early part of their illness, two patients developed a skin rash which was most pronounced on the trunk. One was a fine, erythematous maculopapular rash, and the other looked like pityriasis rosea. All patients except one had pyrexia at some time. The liver and spleen were palpable only in one case.

No significant leucocytosis was recorded in this series (mean: 8,500/cu mm). However, relative lymphocytosis was noted in all (mean: 60%, range: 49-77%). Only five patients showed absolute lymphocytosis exceeding 5,000/cu mm. The total number of atypical lymphocytes constituted a considerable fraction of the lymphocytes (mean: 17%, range: 3-34%). A few atypical lymphocytes were seen in the blood picture of a number of patients months after they had recovered clinically from CMV infection. The transaminases were elevated in a number of cases, which indicated liver involvement. The serum bilirubin was not raised in any of the patients tested.

The virus was detected in the urine of 13 cases, while the diagnosis was established in two remaining patients by the clinical and hematologic picture and the appropriate rise of CMV antibody titer. The virus was also isolated from saliva, the nasopharynx, and the cervix in a number of these patients. In a few cases, the virus continued to be discharged in the urine six months or longer after the disease was initially diagnosed.

The changes in the CF antibody titer during the course of the disease were noted. The titer rose sharply until it peaked in the fourth week. In the next two weeks it fell sharply, and then gradually fell over several months. Changes in the IHA titer correspond roughly with the changes in the CF titer.

Two patients in this series developed Guillain-Barré syndrome secondary to CMV infection. These two patients were seriously ill, one needing steroids and the other, mechanical ventilation for few weeks. This complication is very rare. Only nine cases have been reported from Britain by J. C. Leonard, *et al.*

E. Klemola, *et al.* reported a study of 19 cases of CMV mononucleosis from Helsinki. All patients of this series presented a typhoidal picture without pharyngitis or enlargement of cervical lymph glands. The analysis of the present series among American patients shows a considerable variance in that the fever was not conspicuous and that sore throat, pharyngeal erythema, and cervical lymphadenopathy were seen in a good number of cases.

B. B. Mukherji M.D., Topeka

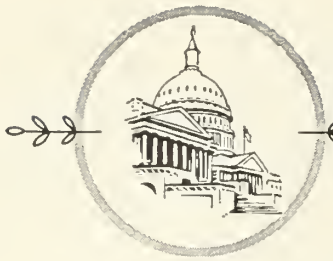
Book Reviews

(Continued from page 422)

THE PRACTITIONER'S DERMATOLOGY, by Richard L. Sutton, Jr., M.D. and Morris Waisman, M.D., Yorke Medical Books, New York. 1975. 530 pages, 605 illustrations. $30.00.

This volume is aimed at providing the non-dermatologist practitioners with a reference which will permit them to approach the majority of skin ailments with assurance and equanimity. The initial chapters are general in nature, covering the normal features of skin structure and function, and basic features of pathology, diagnosis, and treatment. The major part of the book then considers the individual disorders, grouped by etiologic factors, with more intensive attention to their management.

The author's efforts, including Dr. Sutton's engaging preface, have been eminently successful. The text is spare but more than adequate in subject presentation, and covers a remarkable amount of material without dessication of a "synopsis" type of book. It is amply and clearly illustrated, and while one might wish for color photographs—as the authors undoubtedly did—this would probably have priced the volume out of the market at which it is aimed. Physically, the book is well constructed with agreeable type-face and sufficient spread to avoid a sense of crowding. It warrants a grateful reception by the non-specialist.—*C.M.L.*



Socio-
ECONOMICS

Medical Records

Ownership and Release

WAYNE T. STRATTON, J.D., *Topeka*

(*Ed. Note:* The opinion here presented is being rendered by Mr. Wayne T. Stratton, General Counsel of the Kansas Medical Society, in accordance with the provisions contained in KMS Resolution No. 76-16.)

This opinion is in response to Resolution No. 76-16 passed by the House of Delegates of the Kansas Medical Society on May 5, 1976, and reprinted at 77 J.K.M.S. 278 (1976). The resolution requests a legal opinion "to determine what parts of the medical record must be forwarded to the patient or his attorney upon request." It goes without saying of course that physicians are generally required to comply with a court order or a subpoena for a patient's medical records that arises out of an action brought by or involving that patient. Consequently, this opinion will not deal with that issue but will be confined to the situation that arises when a patient or his attorney requests records in advance of any lawsuit. In addition, it should be noted that a great number of hypothetical cases might be posed that could cause a change in the obligation of a physician to the patient. Discussion of all of them is of course impossible. Thus, although such special circumstances will be mentioned briefly, the discussion that follows will be for the most part confined to the general rule.

The rule adopted by most courts that have considered the question is stated as follows in N. Kittrie, H. Hirsh, and G. Wegner, *Medicine, Law & Public Policy,* 190 (1975):

> The consensus of opinion is that the physician or the hospital owns the physical records themselves; that is, the paper, the ink, and x-ray negatives; but the information contained in the records is the property of the patient to the extent that the physician-patient privileges and confidential relationships extend. The patient then has a proprietary interest and control over the information. This presumably should allow the patient, or his representative, to inspect and obtain a copy of the record. The record holder has a right to charge the patient for a copy of the record. Of course, in the event that a patient dies, the next of kin has a right to information from the record.

A doctor is required to disclose information about his patient upon request of the patient or his attorney, except that the doctor may use his discretion and refuse to disclose information that would not be in the best interests of the patient.

The fact remains that physicians are reluctant to allow a patient to obtain a copy of his records to examine them directly. However, physicians are conditioned to allow insurance companies, upon proper patient authorization, to inspect or copy medical and hospital records, and it stands to reason that the patient should have the right to get this information himself or to provide this for his attorney during the prelitigation period.

That statement of law is of necessity not based upon a substantial body of law but rather on merely the few scattered cases that have faced the issue. Nevertheless, the near unanimity in the holding of those decisions taken with the obligations already imposed on physicians by Kansas law leads us to conclude that the statement is substantially correct and would be followed, for the most part, by the Kansas Supreme Court.

Apparently, the first reported decision to address the

issue was *McGarry v. Mercier,* 262 N.W. 296, 100 A.L.R. 549 (Mich. 1935). The court in that case held that x-ray negatives were the property of the physician who made them because they would be practically meaningless to the ordinary person and because their retention "constitutes an important part of . . . [t]he clinical record in the particular case, and in the aggregate these negatives may embody and preserve much of value incident to a physician's . . . experience." 100 A.L.R. at 551. That decision could be construed as standing for the proposition that medical records are the property of a physician and need not be made available to the patient. However, subsequent decisions have usually not adopted such a reading but have limited the case to its particular facts.

In *Cannell v. Medical and Surgical Clinic, S.C.,* 21 Ill.App.3d 383, 315 N.E.2d 278 (1974), a party who had been authorized to obtain medical records of a patient brought an action against a medical clinic after the clinic had refused to make the records available. The court stated that the records themselves need not be turned over to the patient and cited in support of that statement *McGarry v. Mercier,* supra.

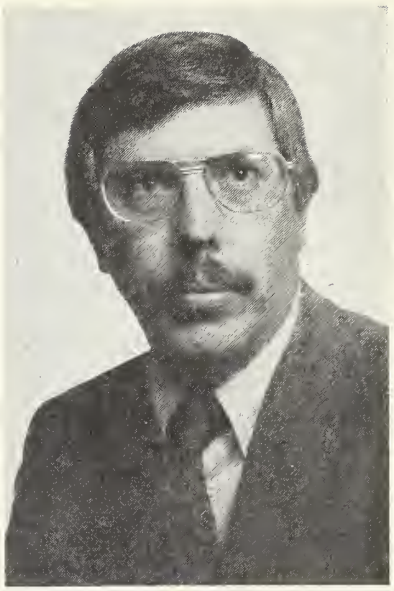
The Illinois court, however, did not stop there. It went on to hold that although the records themselves are the property of the physician, the information contained in them is not. "It is our opinion," said the court, "that the 'fiducial qualities of the physician-patient relationship' [citations], require the disclosure of medical data to a patient or his agent on request, and that the patient need not 'engage in legal proceedings to obtain a loftier status' in his request for such information." 315 N.E.2d at 280. The court went on to hold that the information sought by the plaintiff should have been produced by the defendant medical clinic as requested.

In support of its holding the Illinois court cited *Emmett v. Eastern Dispensary and Casualty Hospital,* 396 F.2d 931 (D.C. Cir. 1967). That case involved allegations of wrongful death brought against a treating physician and the hospital. Judgment was rendered in the trial court in favor of the defendants on the ground that the limitation period for filing the action had expired. However, the patient's heirs contended that they were unable to get into court within the limitation period because the hospital and the physician had refused to allow them access to the medical records. In upholding the validity of that contention and reversing the trial court, the court had this to say about the responsibilities of a physician to disclose the data contained in medical records:

> The responsibilities of physicians and hospitals to protect their patients' medical facts from extrajudicial exposure spring from the confidential nature of the relationship. We find in the fiducial qualities of that relationship the physician's duty to reveal to the patient that which in his best interests it is important that he should know.
>
> * * *
>
> This duty of disclosure, we hold, extends after the patient's death to his next of kin. To be sure, medical professionals can and should vigilantly safeguard the patient's secrets from unauthorized scrutiny. They may, prudently and conscientiously, take such precautions, including suitable identification, as may be necessary to enable determination of the propriety of a requested revelation, and we would consider qualifiedly privileged any divulgence reasonably made to one apparently entitled to it. But we could not justify a refusal to yield the information to a qualified recipient, whether or not it stems from the dictates of self-protection.

396 F.2d at 935-936. A California court, incidentally, reached much the same result for the same reason. *Mishalow v. Horwald,* 231 Cal. App.2d 517, 41 Cal. Rptr. 895 (1964).

Other decisions of note, all of which support the general statement of law set out at the beginning of this opinion, are: *Pyramid Life Insurance Company v. Masonic Hospital Association of Payne County, Oklahoma,* 191 F. Supp. 51 (W.D. Okla. 1961) (patient has a property right in the information appearing on the records and he or those authorized by him may make inspection or copy the records without resort to litigation; paper and other material on which the records are kept belong to the holder); *Wallace v. University Hospital of Cleveland,* 164 N.E.2d 917 (Common Pleas Ct., Ohio 1959), *aff'd and modified,* 170 N.E.2d 261 (Ohio Ct. App. 1960), *appeal dismissed as moot,* 171 Ohio



Wayne T. Stratton, J.D., KMS General Counsel

St. 487, 172 N.E.2d 459 (1961) (hospital required to grant patient access to information contained in records except that which, in the discretion of the hospital, would not be in the beneficial interests of the patient to know); *Alexander v. Knight,* 197 Pa. Super. 79, 177 A.2d 142 (1962) (physicians stand in a confidential or fiduciary capacity to their patients and in addition to duty to render medical care they owe to their patients a duty to aid in litigation, to render reports when necessary, to attend court when needed, and to refuse assistance to the patient's adversaries in litigation).

But, as is nearly always the case in an area of the law that is developing at only a snail's pace, the decisions do not reach a unanimous result. The following cases could be read as supporting the proposition that a physician does not have a duty to disclose the information contained in his records to the patient or the patient's attorney: *Gotkin v. Miller,* 379 F. Supp. 859 (E.D. N.Y. 1974) *aff'd,* 514 F.2d 125 (2nd Cir. 1975) (former mental patient had no right to unrestricted access to her medical records for purposes of preparing a book in the absence of pending litigation); *In re Culbertson's Will,* 57 Misc.2d 391, 292 N.Y.S.2d 806 (1968) (medical records are property of the physician and court would not order records of a deceased physician delivered to his former patients but did require their delivery to the patients' succeeding physicians); *Reeves v. Pennsylvania R. Co.,* 80 F. Supp.107 (D. Dela. 1948) (physician has right to possess x-ray photographs); *Abelson's, Inc. v. New Jersey State Board of Optometrists,* 65 A.2d 644 (N.J. Super, 1949) (in upholding constitutionality of law providing that a patient's record is confidential and forbidding its unauthorized use the court said that statute stating in essence that the records belong to the physician merely codifies what has always been considered the law with respect to a physician's record).

As you can see, the only decision that expressly holds that a physician need not make his records available to his patient is *Gotkin v. Miller.* It was based primarily on the court's reading of *In re Culbertson's Will* as holding not only that the records themselves need not be turned over to patients but that the information contained in them also need not be made available. *In re Culbertson's Will,* however, involved an attempt by patients to obtain possession of the records themselves, not information contained in the records. Therefore, the conclusion that the case stands for the proposition that patients have no right to the information contained in medical records is based upon implication only and may be questionable. In any event, clear authority for the proposition that patients have no right of access to their records appears to exist only in New York. On the other hand, clear authority to the contrary exists in at least four other jurisdictions and perhaps six or more. That point becomes important because of the scarcity of authority on point in Kansas.

Kansas law provides that hospital medical records are the property of a hospital and that only authorized personnel may have access to them. Kan. Adm. Reg. 28-34-9(b). It also provides a specific procedure for release of records by mental treatment facilities. L. 1976 Ch. 243, §34. But beyond that everything becomes quite murky. The only Kansas Supreme Court decision at all on point is *Pyramid Life Insurance Co. v. Gleason Hospital,* 188 Kan. 95 (1961). In that case, an insurance company upon discovering that it had paid a supposedly fraudulent claim submitted by the Gleason Hospital sought to determine whether any other claims submitted by the hospital and paid by the company had also been fraudulent. It brought an action to enjoin the Gleason Hospital from refusing to allow it to inspect all of the charts and records of policyholders who had been confined in Gleason Hospital. The basis of the claim was that the insurance company had been authorized by its policyholders to inspect their medical records, that the relationship between the hospital and the policyholder-patients was fiduciary, and that because of that fiduciary relationship, together with the right of the patients to a full disclosure of pertinent medical facts about their conditions, the patients had control over the review of their medical records by third parties. Unfortunately, the court did not actually deal with that contention. Rather, it noted that there had been no contention that access to records had been denied at the time of presentation or settlement of the insurance claims and that such an after-the-fact bill of discovery was not permissible under Kansas law. The court therefore based its holding on procedural grounds rather than on the question of ownership of medical records. In fact, the court stated that "[w]e need not determine hypothetical cases in which a former patient, as an individual, brings an action against a hospital and seeks a copy of or information from the medical records of the hospital concerning his case" because "[t]hat is not the situation confronting us." 188 Kan. at 100. Consequently, the Kansas decision does not appear to be sound authority for determining what interest a patient has in his records.

Furthermore, in *Bishop Clarkson Memorial Hospital v. Reserve Life Insurance Co.,* 350 F.2d 1006 (8th Cir. 1965) a federal court of appeals took the position that the Kansas decision was not "reliable authority" for the argument of a hospital that it was not required to make medical records available to an insurance company that wished to inspect the records for the purposes of determining the validity of claims. The hospital had fol-

lowed the practice of making abstracts of the records available to the insurance company but the company asserted that the abstracts were not sufficient. The court held that the patient has a property interest in his own record and that the insurance company, if it had proper authorization, had the right to inspect the records unless "the bona fide and good faith judgment of the patient's doctor dictates and he certifies under oath that the records not be released to the patient or his authorized representative in the best interest of the [patient's] health." 350 F.2d at 1012.

There being no Kansas authority directly on point, we are thus required to determine whether the Kansas Supreme Court would extend the rationale of other holdings dealing with patient-physician relationships, as have other courts, and find that a doctor must make his medical records available to his patient. Kansas has of course recognized that the doctor-patient relationship is a fiduciary one requiring the doctor to reveal all pertinent information to the patient. *Collins v. Meeker,* 198 Kan. 390 (1967); *Natanson v. Kline,* 186 Kan. 393 (1960); *Capps v. Valk,* 189 Kan. 287 (1962); *Noel v. Proud,* 189 Kan. 6 (1961). That particular statement of the rule only refers to the requirement that a physician disclose the risks of a proposed form of treatment. However, it has generally been the basis for the various decisions holding that a doctor must disclose the data in his medical records to his patient. *e.g., Cannell v. Medical and Surgical Clinic, S.C.,* 21 Ill. App.3d 383, 315 N.E.2d 278 (1974). Furthermore, to say on the one hand that a physician owes a duty to disclose the risks of treatment to the patient but yet does not owe any duty to disclose the data about the patient and his treatment seems inconsistent especially in light of the general fiduciary duty owed by a doctor to his patient. Thus, because of that inconsistency and because the majority of decisions have permitted a patient to have access to his records, we would conclude that the Kansas Supreme Court would hold that a patient has the right to see his medical records.

Saying that, however, does not resolve the issue because Kansas law has never required the physician to explain in detail all the possible risks and dangers of treatment. Rather, it has only required the physician to make those disclosures that a reasonable medical practitioner would make under the same or similar circumstances. It thus leaves the issue of appropriate disclosure to standard medical practice that takes into consideration the patients' best interests. *Natanson v. Kline,* supra. We would doubt that the Kansas Supreme Court would take the position that a doctor must disclose all medical information on a patient, regardless of the patient's best interests, yet need not disclose all risks of the proposed treatment if that would not adequately serve the patient. It would certainly seem reasonable to conclude that a doctor is required to consider the best interests of his patient in all his dealings with that patient, including a request for medical records. At least two courts have, as we noted previously, reached that conclusion. *Bishop Clarkson Memorial Hospital v. Reserve Life Insurance Co.,* supra, and *Wallace v. University Hospital of Cleveland,* supra.

The "best interests of the patient" of course do not include self-protection on the part of the physician. They would include the possibility that disclosure would damage the patient's physical or mental well-being. The possibilities are obviously infinite and are therefore highly dependent upon the judgment of the individual physician. We can only conclude that in our opinion the Kansas Supreme Court, were it faced with the issue, would rule that a physician is in general required to disclose the information contained in his medical records unless in his judgment the patient's best interests would not be served by such disclosure.

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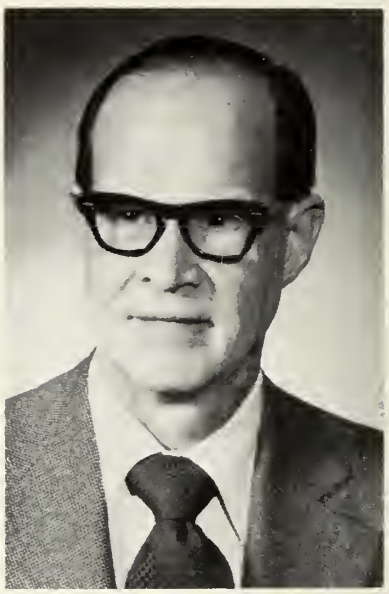
OR

Caryl Bichlmeier
6110 West 65th St.
Mission, KS 66202

The President's Message

A and D. Yes, it stands for the ointment. But in Kansas, this year and several more, it stands for Availability and Distribution of health care personnel and facilities. Interested are our legislators, our medical schools (KU and Wichita), our Kansas Medical Society, and all of the people of Kansas. The Kansas Health Day in Kansas City and Wichita has shown how important our community leaders throughout the state feel this is. Splendid participation by our profession and allied groups show that we know it is important. Thank you.

Political and legislative. Yes, these terms go together, and in that order. In our opinion, no physician who sits by without participating in electing the candidates of his choice, has a right to go to Topeka or Washington after January 1, to ask for help in legislation (pro or con). Last week, a candidate called us, asking for the names and addresses of every physician in his district. He thinks your help is important. Remember—if every physician (Republican and Democrat) supports his candidates—no matter who is elected, there will be someone in the medical society who can go and ask for help. "Elementary, my dear Watson." The September *KaMPAC News* tells the story—much of it on the cover, if you won't read what is inside.



Potomac Alphabet Soup: BCHS, BHI, BQA, DHEW, ESRDP, FDA, FTC, HSA, HMO, GAO, IRS, MAC, EAC, MCE, MCH, MOU, MSA, NOI, NPRMS, NPSRC, PHDDS, POC, PRT, PSRC, PSRO, QAP, RAG, SEC, SRS, SSA, UR, URC, OSHA, KU, KSU. Turn to page 428 to learn what it was before it was alphabetized. (My thanks to the Buchanan and Jackson County, Missouri bulletins for legalizing my plagiarism.)

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

Invitation to Risk

The faulted land of alcoholism has been suffering some shock waves in recent months as the result of a study produced by three staff members of the Rand Corporation. With funding from the National Institute of Alcohol Abuse and Alcoholism, two psychologists and a sociologist undertook to determine the results of treatment from NIAAA treatment centers on the basis of interviews with patients in "remission" (some 70% of those undergoing treatment in the different centers). The disturbance rose from the revelation that the relapse rate of individuals who resumed "normal" drinking (defined as less than three ounces a day, in case you want to get yourself situated) was no greater than for those who abstained completely for more than six months (and six months seemed to offer, in this study, as good a prognosis as 18 months of sobriety). The obvious implication is that total abstinence may not need to be the objective in the treatment of alcoholics and this, by extension, was interpreted as an "invitation" to "recovered" alcoholics to resume drinking—at least within this arbitrary limit.

Objections (and some approval) have risen from all sides and on all levels. Even the NIAAA which sponsored the study, discounting if not disclaiming the report, pointed out that the study must be considered only a part of the continuing effort to obtain more information about this oldest and most prevalent of addictions. The Rand Corporation admitted some reluctance about releasing the report and the subsequent reaction may have them wishing they had practiced a little more abstinence themselves. The methodology has been attacked, particularly the fact that the work was based on the testimony of the subjects themselves—and recovered alcoholics were among the first to point out the unreliability of this source. There is no reason to think the authors had the intent to release a permissive manifesto. They claim some surprise at the findings, and hasten to caution that there is at present no way to determine which individuals are unable to drink "normally" without relapse. There may be some practical value in the observation that total abstinence for six months had virtually as good a promise for continuing as did abstinence for as long as 18 months.

The paper was not without defenders, however, since similar findings have been previously reported but, for some reason, without equivalent publicity. Those who see promise in such information assert that the effort to reach many alcoholics is rendered less effective because of the formidable prospect of having to achieve total abstinence or be counted a failure. Such feelings not only block some in the resolution to stop but invite the abstainer, after a transitory slip, to consider himself lost again and proceed to prove it. What seems to be one of the stranger comments on the matter was offered by one of the proponents of the "limited objective" attitude, who pointed out that the belief in total abstinence as the only solution was not based on scientific evidence. One might think that scientific certainty would not be a prerequisite for this belief, but since there is general acceptance of the fact that the person with physical damage from alcoholism has no choice but total abstinence (which *is* scientifically supported), this apparently means we must wait until the alcoholic achieves this qualification to put a scientific blessing on his effort to stop completely.

So, the uproar has mounted and perhaps more good will come than might have otherwise. Certainly, the volume of response points out the general acceptance, whether on a scientific basis or not, that the recovered alcoholic is considered, at best, only in remission (in the medical sense, a *temporary* abatement) and is believed, by himself no less than those around him, to be at continuing risk of resuming destructive drinking. Therefore, he is considered particularly susceptible to any presumed "official" approval of resumed consumption, which seems to say that the only true abstinence *is* total abstinence.

Now, we are in favor of applying the scientific test to all phases of life in the attempt to define truth. Whatever enlightenment scientific study can bring to

a study must be considered worthwhile. Without a statistician's expertise, we cannot commend or condemn the methodology of the study. Without the psychiatrist's acquaintance with the psychopathology, we cannot judge whether a more permissive attitude would salvage more individuals that it would lose. Without the alcoholic's experience, we cannot measure subjectively the disservice of promoting a false approval. But in our naivete, we find the direction of the study seemingly right for the wrong reasons and wrong for the right reasons. Even if it can be proved that the alcoholic who has achieved total abstinence can return to "normal" drinking or that the active alcoholic can be appealed to to seek this "practical" level of sobriety, to what purpose?

Any discussion of the subject of alcoholism suffers from the uncertainty and imprecision of terms, some already noted. What is an "alcoholic"? What is "normal" drinking (aside from the three-ounce daily limit)? What is a "recovered" alcoholic—or when is an alcoholic not an alcoholic? This whole milieu of uncertainty, probably, is a prime contributor to the fact that to date the only measure of "recovery" from alcoholism has been the total abstinence which has been the basis of the limited but only reliable success in the field. And this, in turn, accounts for the anguish which was aroused by the publicity given this study. The attention it has received has stemmed from the insecurity that everyone feels regarding the whole subject, but particularly that which attaches to the "recovery" connotation. This suggests the fear that acceptance of the concept that *some* degree of drinking in *some* individuals can occur with no greater risk of recidivism than with total abstinence will lead to a domino effect among recovered alcoholics. This attitude of insecurity, though it does injustice to some, is justified by experience which brings us back once more to the fact that the problem itself has resisted efforts toward scientific analysis. The physical effects have been measured and interpreted with some scientific clarity because the measurement has been of the destructive effects, not the etiology and pathogenesis.

But apart from the dubious virtue of implication that the alcoholic can pick up the glass with a "scientific" blessing of relative impunity, the error lies in the essentially needless character of the activity in the first place. Now, we are a veteran of innumerable social hours and by no means a total abstainer (nor, to the best of our knowledge, a practicing alcoholic, but again there is the problem of definition). But if it can be said that *some* alcoholics can return to "normal" drinking without greater risk of relapse than their totally refraining friends, still why should they? Why should the obvious benefits of abstinence be risked in any degree to permit a return to an activity which contributes, in all honesty, practically nothing in good compared to the damage which is invited in accepting the risk? We are told that there are some alcoholics who would accept this limited goal in an effort to recover when they would feel defeated by the requirement of total abstinence. Can one feel particularly secure, however, about the durability of the "abstinence" of the individual who must be enticed by this limited goal? Is it contributing in a positive sense to deliberately ease his sense of responsibility and show we're good buddies by welcoming him back to the social hour?

It has already been pointed out, by the investigators themselves among others, that no one knows how to detect the individuals who can be given the dubious honor of rejoining the convivial group with their ginger ale or fruit juice replaced by the real thing. Until we can differentiate these individuals precisely, there seems scant reason to abandon the total goal—even though the rigidity of the standard has some adverse effect on the success statistics. It is accepted that those with physical damage should never resume drinking. Can we detect the transition into the damaged state so exactly that we can condone "normal" drinking, assured that this damage does not exist? Should the alcoholic be invited to resume the activities and pressures and contacts which he has successfully replaced and neutralized, and risk recidivism by exposure to the very pressures and stresses which contributed to the problem in the first place?

The study focused on the fact that as many total abstainers (one third of the group) fell from grace as did "normal" drinkers. It might be well to put the interpretation in the other order. Instead of saying that the drinker who keeps his consumption within "normal" limits has no greater risk of relapse than the total abstainer, would it not be better to stress that total abstinence carries only half the risk of relapse as the other categories combined—as well as the other benefits of sobriety?

As we noted, we doubt that the authors started out deliberately to develop this permissive concept, so we are not inclined to be as critical of them as some have been. But we would be critical of them or others who think it appropriate to pursue the idea that justification can be found for permitting (encouraging?) individuals to take any risk of resuming this form of abuse after the valiant effort necessary to dispose of it. After all, we are not talking about restoring these individuals to some vital activity which illness has denied them and which is essential to resumption of normal life. We are

(Continued on page 458)



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WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

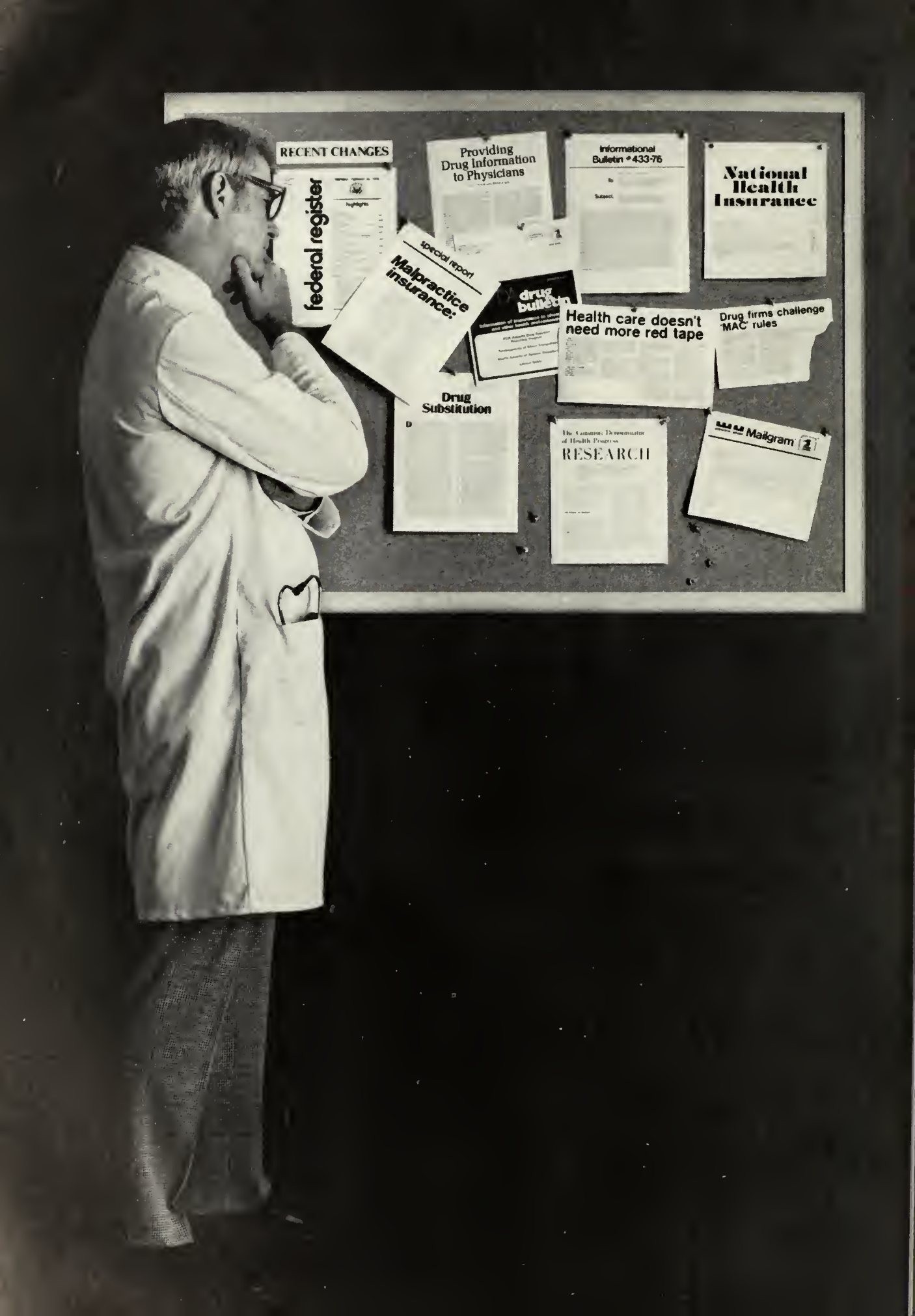
Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.



Pharmaceutical Manufacturers Association
1155 Fifteenth Street, N.W., Washington, D.C. 20005

Editorial Comment

(Continued from page 456)

talking about a return to the borders of a damaging addiction.

Alcohol has been a cultural instrument since the recognition of fermentation and has a sizeable literature all its own. It has been praised for its inspirational effect and hailed as a nutritional adjunct and blessed for its medicinal qualities. And it has produced, in its abuse, a tragic record of devastation from whose touch none of us is secure, actually or potentially, directly and indirectly.

So we can see no virtue in a direction of investigation which aims at reducing the one objective which has been effective even though achievement has been less than desired. No lasting victory has ever been gained by giving up that territory which has been taken in the hope that the enemy will, out of gratitude, give back even more.—*D.E.G.*

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

CALL FOR PAPERS

The Kansas Medical Society Annual Meeting is scheduled for May 1-4, 1977, in Wichita. Those members wishing to participate in the scientific portion of the meeting are invited to submit an abstract. The abstract should be no longer than 150 words. The deadline for submission of abstracts is November 1, 1976. Please address abstracts to:

D. V. Horbelt, M.D.
Department of Ob-Gyn
Wesley Medical Center
550 N. Hillside
Wichita, Kansas 67214

The scientific portion of the meeting will qualify for Category I credit.

Obituaries

WILLIAM P. CALLAHAN, M.D.

Dr. William P. Callahan, Sr., 87, died July 31, 1976, in Wichita. He was born October 6, 1888, in Kingman.

Dr. Callahan was graduated from the University Medical College, Kansas City, in 1910. One of the state's original horse and buggy doctors, he helped establish the community's first hospital at Kingman, where he practiced six years. He moved to Wichita in 1929, where he practiced and taught surgery. He was elected president of the Kansas Medical Society in 1945, and served as president of the newly reorganized State Board of Healing Arts in 1957.

Surviving Dr. Callahan are his wife and a daughter.

LESTER A. LATIMER, M.D.

Dr. Lester Arthur Latimer, of Alexander, died July 12, 1976, in Great Bend, at the age of 91. He was born November 1, 1884, in Bern.

Dr. Latimer was graduated from the University Medical College, Kansas City, in 1909. He established his medical practice in Alexander the same year, serving that community until his retirement in 1952.

Dr. Latimer is survived by a daughter.

SHERBURNE MacLEOD, M.D.

Dr. Sherburne MacLeod, 69, died July 15, 1976, in Wichita. He was born November 14, 1906, in May, Oklahoma.

Dr. MacLeod was graduated from the University of Oklahoma School of Medicine in 1933. He practiced in Wichita since that time.

Survivors include his wife, a daughter, and a son.

RALPH R. MELTON, M.D.

Dr. Ralph Robert Melton, of Marion, died July 29, 1976, at the age of 70. He was born October 13, 1905, in Garnett.

Dr. Melton was graduated from the University of Kansas School of Medicine in 1933. After completing his internship and residency with Dr. Arthur E. Hertzler at Halstead, he established his practice of general medicine and surgery at Marion, in 1935. He retired in 1974, due to illness.

Surviving Dr. Melton are his wife, a daughter, and two sons.

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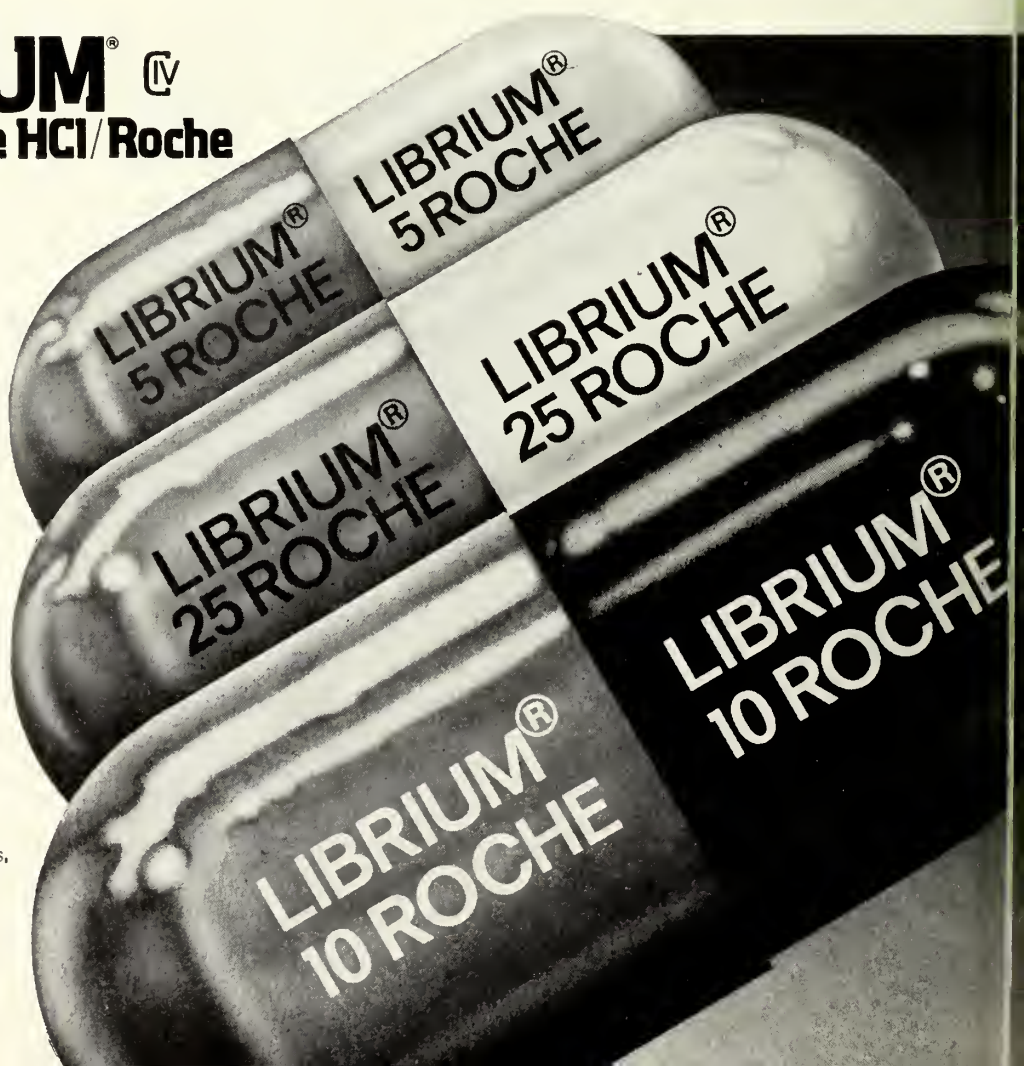
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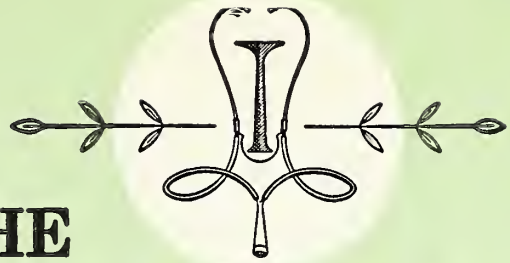
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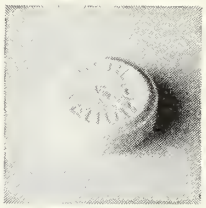
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Volume LXXVII, Number 11—November, 1976

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Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

Editor: David E. Gray, M.D., 105 Medical Arts Bldg., Topeka 66604.

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Kansas Physicians,

During early September our state officers, including Jackie Burnett, President-Elect; Jean Crouch, First Vice President; Kathy Wedel, Second Vice President; the AMA-ERF gals, Caryl Bichlmeier and Mary Yulich; and I enjoyed a luncheon with physicians' wives from McPherson and Rice counties, where there are no formally organized county auxiliaries, although many are members-at-large. Our hostess was Mary Collier. The group were over-night guests of Paula Graves, in St. John, and enjoyed a morning coffee with the Stafford County Auxiliary and MAL. Then, Pratt County members were hostesses for a lovely salad luncheon at the lake home of Dr. and Mrs. Cyril Black. Mrs. Anna Marie McNickle was our hostess for a dinner meeting in Ashland for the Iroquois members. The gatherings were informal and we were delighted to have the opportunity to meet new faces and to share the Auxiliary programs.

The fall workshops were held on October 5, 6 and 7, in Hutchinson, Garden City and Hays, with Jeannette Mull and Sally Depenbusch, in Hutchinson; Galene Wiley and Carole Dickerson, in Garden City; and Janet Medina, Kathy Wilcox and LaVena Stump, in Hays, as hostesses. Constituent members listened to short talks by the chairmen and then participated in round-table discussions of their choice. Areas covered were membership, legislation, county treasurers and dues collection, AMA-ERF, Gems, professional liability, genetic counseling, international health, memorial loan fund, health education, new health careers, operation helpmate, safety, Project Bank, and community health. A puppet show on good nutrition was presented by the traveling team. Jackie Burnett announced her plans for the 1977-78 year, and we encouraged members to work on community auxiliary projects, to obtain Auxiliary programs such as the Impaired Physician, to stress physical fitness, and become interested in high blood pressure problems. Our communities have been good to us and, in turn, Auxiliary members should help their communities when needed in volunteer projects.

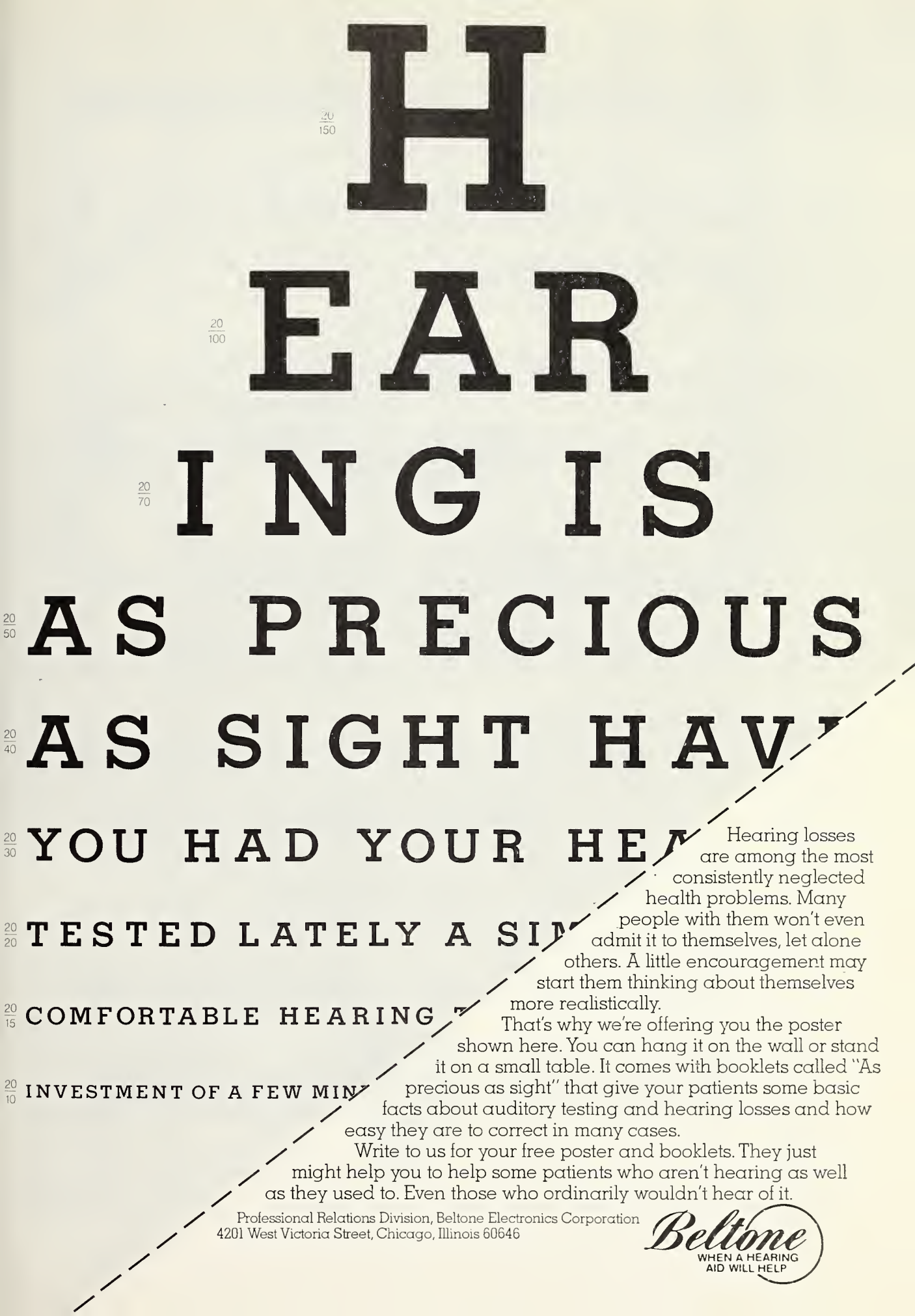
Your President and President-Elect attended the annual Fall Confluence in Chicago on October 10-13. We were joined by four county Presidents-Elect: Vicky Young, Kansas City; Esther Harms, Halstead; Betty Barker, Council Grove; and Carol Loeffler, Wichita. It was a very busy four days, with absolutely no minutes wasted by the National Auxiliary. All participants attended four seminars: on legislation, membership, the new Project Bank (ask your wife if she understands the valuable information in the Project Bank), and communications. Our national President-Elect, Lela May Young, Kansas City, presided at the Leaders Seminar Luncheon; and Edith Lessenden, Topeka, our North Central Regional Vice-President, was a membership seminar participant. Also, four choices were offered from the following selection: developing basic writing skills; emergency medical services/CPR; how to be politically effective; international health; parliamentary procedure; problem exploration in medical marriages; techniques for speakers; and violence on TV—impact on children. All but the medical marriage seminar were excellent (apparently this speaker did not comprehend what the ladies wanted to hear him discuss, and gave a canned, written speech that was dull and boring).

Other keynote speakers included Dr. Richard E. Palmer, AMA President; Dr. Joseph Von Thron, AMPAC Representative; Dr. James H. Sammons, AMA Executive Vice President, and two physicians who stressed the vital need for AMA-ERF funds. Plus, we attended a very special three-hour workshop on "Values, Alternatives, and Choices." The highlight of the sessions was the presentation of "New Directions for High Blood Pressure Control Activities in Your Community," and we are looking ahead to May, to conduct a good program in Kansas. We hope you will join us in this very worth-while project.

Kansas physicians, if there are local projects in your communities or projects that you think should be endorsed statewide, please contact us, because the Auxiliary members are available to assist you.

We are extremely proud of the excellent relationship that we have with the Kansas Medical Society, and when we hear of the states where there is absolutely no communication, we sincerely appreciate the KMS Officers and Council, and thank them and the Topeka Executive Office staff for their cooperation and their backing.

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the
Kansas Medical Society



Hearing losses are among the most consistently neglected health problems. Many people with them won't even admit it to themselves, let alone others. A little encouragement may start them thinking about themselves more realistically.

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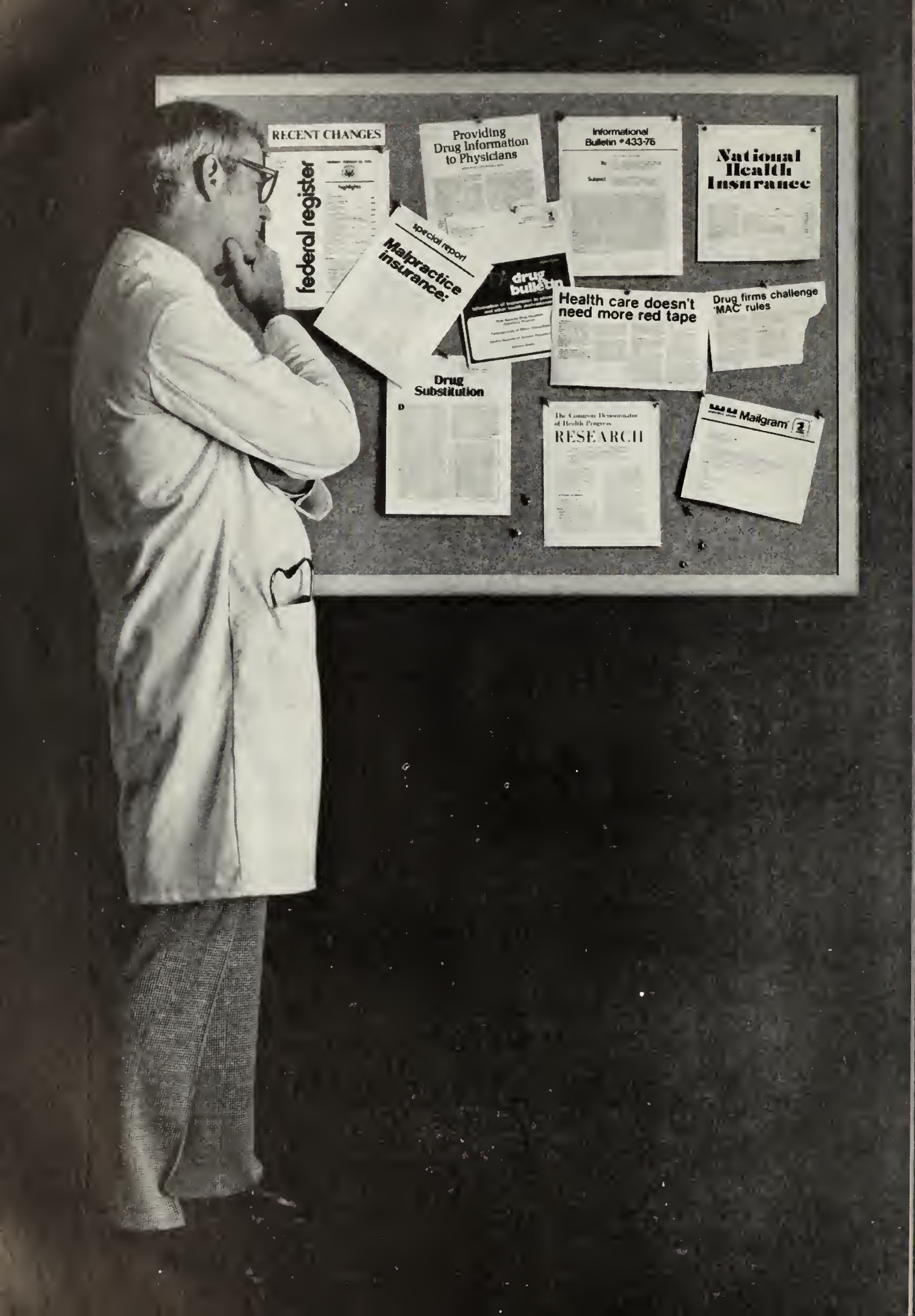
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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

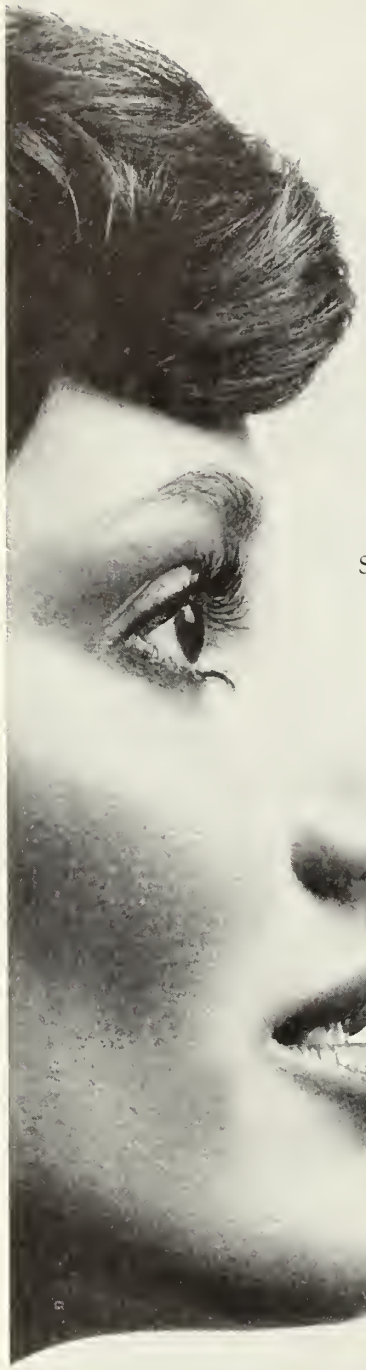
The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

It could make a difference in your practice tomorrow.



Pharmaceutical Manufacturers Association
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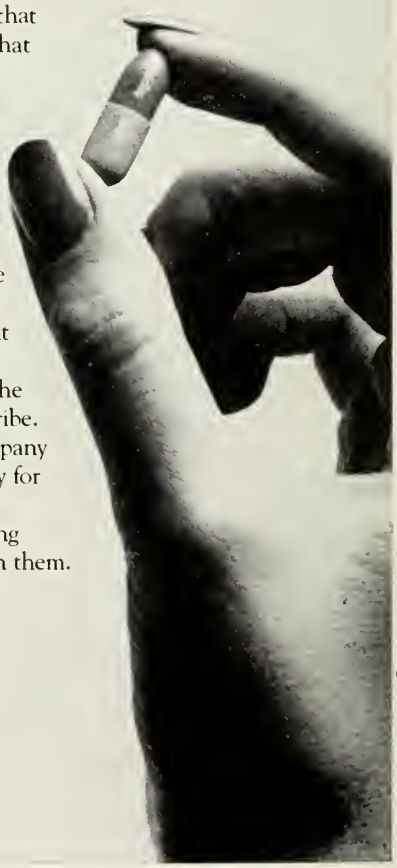
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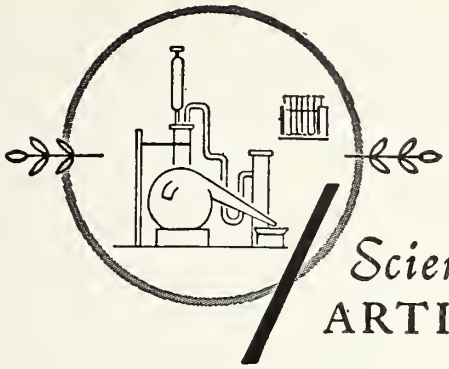
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American College of Physicians Issue

Once again, the November issue of THE JOURNAL is devoted to papers presented at the Kansas Regional Meeting of The American College of Physicians.

The 48th anniversary meeting of the College was held on February 27, 1976, in Wichita, Kansas. The Program Chairman was Thomas J. Luellen, M.D., F.A.C.P., Wichita, and the Arrangements Chairman was William L. Hayes, M.D., F.A.C.P., Wichita.

Doctor Luellen has made the collection and publication of these papers possible, for which the Editorial Board is grateful. THE JOURNAL appreciates this yearly opportunity to expand the audience for these interesting and instructive papers which originated in Kansas.



Scientific ARTICLES

Trauma

Injuries to the Stapes

RICHARD J. CUMMINGS, M.D., *Wichita*

Various types of trauma, its cause, diagnosis, and surgical management of the stapes is discussed. Nine cases are presented.

Otolaryngologists have been seeing more patients with traumatic injuries to the middle ear in the past few years. These injuries often are complicated and may involve any portion of the middle ear cleft. Injuries to tympanic membrane, ossicles, and facial nerve are the most common. Fractures and dislocations of the stapes bone are less common than other ossicular injuries, but are of special interest as they can cause cochlear and vestibular injuries as well as conductive hearing loss. This paper will discuss various types of traumas to stapes, their cause, diagnostic work-up, and surgical management. A number of cases will be presented.

Anatomy

Stapes is the smallest and most fragile bone in the human body, yet injuries to this structure are relatively uncommon; injuries to incus are far more common than those to the stapes, but damage to malleus is even less common than is damage to stapes. The primary reason for this is that the incus is suspended in the middle ear space with only minimal fibrous attachments in fossa incudi, with a loose attachment to malleus. Malleus has a good fibrous attachment to umbo of the short process, and is held rather firmly in place by tensor tympani muscle and various mallear folds. Stapes is relatively well protected anatomically in its superior-posterior location in the middle ear space. There is a relatively firm annular ligament around the footplate of the stapes, and stapedial tendon and incudostapedial joint both give it support. Because it is so well protected, injuries to stapes are relatively uncommon, and often are associated with concomitant injuries to the other ossicles and, fairly often, to the facial nerve.

Etiological Factors

Head Trauma

Two major types of injuries to the middle ear cleft can cause damage to stapes. The most common ossicular injuries are from closed head injuries. Hough and Stuart[1] reported ossicular change derangement in 31 patients with head injury. They found that 30 per cent of these had injuries to the stapes bone. When there is damage to stapes from a head injury, it frequently is

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

Address reprint requests to Dr. Cummings, 427 N. Hillside, Wichita, KS 67214.

secondary from a temporal bone fracture, although x-ray documentation is sometimes difficult to obtain.

Temporal Bone Fractures

There are two types of temporal bone fractures. The transverse fracture is the less common type, and it usually involves cochlea and the facial nerve. When the middle ear is damaged but cochlea is left intact, injury in the majority of cases is from the longitudinal type of temporal bone fracture. An excellent review of head trauma and temporal bone fractures was presented by Proctor.[2] The longitudinal type of fracture usually is caused by a temporoparietal blow, with the fracture line extending along the axis of the petrous pyramid. It typically will involve the middle ear cleft.[3] A shearing action occurs in the middle ear cleft which often causes serious damage to the tympanic membrane, any or all of the ossicles, and often the facial nerve. There have been previous reports in the literature of fractured stapes crura from this type of head injury. McGovern[4] reported that the facial nerve is involved in fewer than 25 per cent of longitudinal type of temporal bone fractures, although these constituted 80 per cent of all temporal bone fractures. The histopathology of the longitudinal temporal bone fracture was described by Ward.[5] Cochlea and vestibule usually are not involved in this type of fracture.

In some instances, head injury can be followed by equilibrium problems, probably, caused by inner ear concussion lesion.[6] Disequilibrium also can result from a perilymph fistula of the oval window following head injury. Two cases in this report had this type of lesion.

If the facial nerve is damaged, exploration of the mastoid and middle ear is essential as soon as the patient's general condition permits. If, however, the facial nerve is uninvolved, it may be advisable to delay surgery until after the acute inflammatory reaction has subsided. Murphy[7] has pointed out that stapes may be more vulnerable to injuries if there is a preexisting otosclerosis, which prevents the footplate from moving during violent motion in the middle ear at the time of injury. One case in our series suffered fibrous fixation of the stapes, which was not believed to be due to otosclerosis but rather as secondary to trauma.

Penetrating Injuries

A penetrating injury to the middle ear is the second major type of trauma which can cause damage to the stapes bone, as well as to other ossicles in the middle ear.[8] Silverstein *et al.*[9] reported 27 cases of penetrating injuries to the ossicles. Many of these penetrating injuries are minor and involve little more than the tympanic membrane. In some instances, however, not only will there be serious damage to the tympanic ossicles but also dislocation of the stapes into the vestibule, which can cause serious cochlear and vestibular symptoms. Stapes is relatively well protected in some ears from penetrating injuries, because of the tortuosity of the ear canal and because of the bony posterior-superior tympanic ring which prevents direct damage to this area. If the penetrating injury to the ear drum is in the anterior or inferior portion of the tympanic membrane, damage usually is of minor consequence. When the injury occurs in the posterior-superior quadrant of the eardrum there is a definite chance of serious damage to stapes, as well as other middle and inner ear structures. Rarely, facial paralysis can be caused by direct transtympanic trauma.[10] Armstrong[11] has advocated early repair of injuries to the posterior-superior quadrant, especially if ossicular damage is suspected.

A wide variety of usual and unusual objects can cause these injuries: the ordinary cotton Q-Tip is the most common culprit, but many other objects, such as hairpins, rattail combs, sticks, nails, pencils and other foreign bodies, have been reported to cause ossicular damage. Yaniogisawa[12] reported a case of isolated fracture of the stapes from a tree limb (the fracture was surgically repaired). When the stapes is involved in a penetrating injury to the middle ear, there frequently is damage to the vestibule as well as perilymph fistula. Four out of five stapes injuries from transtympanic trauma in this series experienced a perilymph fistula.

Diagnostic Work-Up

History

The extent of the diagnostic work-up depends on whether the injury is acute or of long-standing duration. In an acute injury, it is necessary to decide whether the case represents a surgical emergency or whether repair can be done on an elective basis. In most cases, the otologist will not be asked to see the patient until his vital signs are reasonably stable and necessary emergency care has been given by another specialist. Careful medical history should be taken and recorded to enable a better understanding of the extent of the injury and for other medical and legal reasons. Fox[13] has stressed the importance of accurate and detailed records in head trauma cases because of the medicolegal implications. The exact type of injury, hearing loss, its onset, presence or absence of dizziness, tinnitus, taste, and facial nerve paralysis all are important. History of imbalance associated with an acute injury has significance in deciding whether the treatment should be done on an emergency basis. Examination of the ear canal and ear drum, and otoneurologic examination will be included in the physical examination.

The precise location and extent of the perforation, if present, must be ascertained. The presence or absence of hemotympanum is important. Irregularities of the external ear canal, particularly in the superior-posterior portion near the ear drum, are indicative of temporal bone fracture, usually associated with serious ossicular problems.[14]

Audiometric Tests

Audiometric examination should include air conduction, bone conduction, and speech discrimination tests. There were several youngsters with stapes fractures and subluxation of the stapes in the oval window in our group of patients. It was most difficult to obtain an accurate and reliable bone conductive level in these patients. Because of this; tuning forks should always be used to verify the audiometric results. If the tympanic membrane is intact, impedance studies sometimes are of real value. Does and Batterman[15] reported that impedance is helpful only in a few patients. Theoretically, one would expect impedance to be of help in delineating the actual site of injury. For example, with a fracture of the stapes crura and no other injuries, one would expect a very high peak on the tympanogram with a stapedial reflex. However, with an ossicular discontinuity with an intact stapes, one would expect a high peak with an absent stapes reflex. The problem is that in most of these cases there are multiple injuries to the ossicles and ear drum which often are associated with hemotympanum and inflammatory tissue, which limits the usefulness of the impedance test.

X-ray Evaluation

X-rays are of limited value in penetrating injuries to the middle ear, but of real benefit in temporal bone fractures. We have not had polyptomography available, but tomograms have been used on temporal bone fractures. The fracture line and the exact location of the fracture can be seen in a high percentage of patients as compared with the ordinary temporal bone views. This not only helps to document the fracture but also helps in the surgical approach, especially if the facial nerve is involved in the injury. Ordinary mastoid views demonstrate less than half of the longitudinal bone fractures.

Vestibular Tests

If the patient has any dizziness or imbalance, electronystagmography for spontaneous and positional nystagmus is done. If the injury is very serious, with cochlear and vestibular injuries, the patient will be dizzy and nauseous, and will have nystagmus of such extent that recording is unnecessary. ENG tracings were done on six patients in the series and the results were abnormal in all cases.

Facial Nerve Tests

If the facial nerve is involved, topographical diagnostic tests should be done to verify the exact site of the lesion. This will increase nerve excitability, tearing, stapes reflex, and possibly submaxillary secretion tests.

Timing of Surgery

After the extent of the injuries have been assessed and if surgical repair is indicated, the proper timing of the procedure can determine the final outcome. For example, for the patient with a temporal bone fracture and an intact facial nerve, surgical intervention should be delayed, if possible, until the swelling of the tympanic membrane has subsided. If there is a facial nerve injury as well as ossicular problem, surgery should be performed as soon as the patient's general condition permits it. It may be possible to perform tympanoplastic surgery simultaneously with the facial nerve decompression. However, if there is a significant amount of inflammatory tissue and heavy bleeding at the time of surgery, it is preferable to repair the fracture, decompress the facial nerve and, perhaps, repair the tympanic membrane, but leave the ossiculoplasty for a second stage. Hough[16] has reported many cases of ossicular damage in which surgery was done with excellent results years after the injury. In general, stapes and other ossicular injuries from closed head trauma are not an emergency, and are better treated on a surgical elective basis.

The penetrating injury to the middle ear, however, is an entirely different problem. If one is assured there is no damage to the footplate of the stapes or a perilymph leak, these cases are best treated on an elective basis after the inflammatory reaction has subsided. In most cases, during the first few weeks after the injury, one will find intense edema and hemorrhage at the site of injury. It is difficult to do a meticulous repair under such circumstances. If there is any damage to the oval window with a fracture of the footplate, perilymph leak or subluxation of the stapes into the vestibule, however, surgery must be performed as soon as possible. Particularly if the stapes is embedded deeply in the vestibule, one can expect a totally dead ear if treatment is not immediate. Even with immediate treatment, the patient most likely will have a sensorineural hearing loss—sometimes a severe one. Occasionally, useful hearing can be salvaged by early surgical repair. Three of the four cases had useful hearing after tissue closure of the oval window and ossiculoplasty.

Surgical Approach

A routine tympanotomy approach is used to explore the middle ear with, perhaps, a larger than usual tym-

panomalleal flap made in case the attic area would need to be opened. Local anesthestic is preferred, except in children or if the facial nerve also is to be explored. The exact tympanoplastic procedure used to repair stapes and other injuries can only be determined if the middle ear is opened. Many techniques have been advocated to repair the various ossicular injuries.[17–19] In those cases in which malleus and incus are intact, or where severe damage to the stapes exists, either to superstructure or footplate, a routine stapedectomy with tissue closure of the oval window is the procedure of choice. The oval window can be closed with superficial temporalis fascia, perichondrium, fat or vein, depending on the surgeon's preference. A routine stapes prosthesis (preferably a stainless steel piston) then is used to close the gap between incus and tissue graft. In some cases, it may be possible to use remnants of the stapes. This technique was used in five cases *(Figure 1)*.

There is an occasional case where the major damage is to the incudostapedial joint. The stapes may have been subluxated and tilted out of position and the incus also may have been disturbed. If reapproximation is not satisfactory, a bridge between the stapes and incus will give good results. Dr. Hough[14] first described the use of autograft bone for this type of problem. In the case described here, a small piece of cartilage with an indentation for the head of the stapes, interspersed between the stapes and incus, was preferred. A small perichondrial flap was used to roll over the top of the incus to hold the cartilage in good position. This procedure was used in Case Six. In this instance, the incus was somewhat out of position, but the major problem was a severe tilting and subluxation of the stapes, although the annular ligament and crura were still intact. The final hearing result was excellent *(Figure 2)*.

A third type of ossiculoplastic procedure would be in those cases where the stapes superstructure has been destroyed and the incus has been severely dislocated. An incus transposition from the footplate to the malleus and tympanic membrane is required in such cases. The long process of the incus is placed on the footplate. A notch is made on the short process, which will allow the short process to fit onto the handle of the malleus and the rest of the short process will extend along the tympanic membrane. A small piece of fat or fascia is put around the lenticular process of the incus as it is sitting on the footplate to hold it in good position. This procedure has been extensively used in chronic ear surgery and has been very successful. This technique was employed in Case Three with good results *(Figure 3)*.

Case One

A 56-year-old male complained of hearing loss and dizziness of five years' duration. Medical history included a head injury as a youngster, when he hit his head on a railroad rail and was unconscious for a short period of time. X-rays of the mastoid were normal. Electronystagmography showed only a very low-grade positional nystagmus in the supine left-lateral position. Audiogram showed a high-pitched sensorineural hearing loss in the right ear. There was mixed hearing loss in the left ear, as seen in *Figure 4*. Discrimination was 80 per cent in the left ear. Tone decay was negative. SISI was 0 to 20 per cent. The dizziness was symptomatically treated. Exploratory tympanotomy was per-

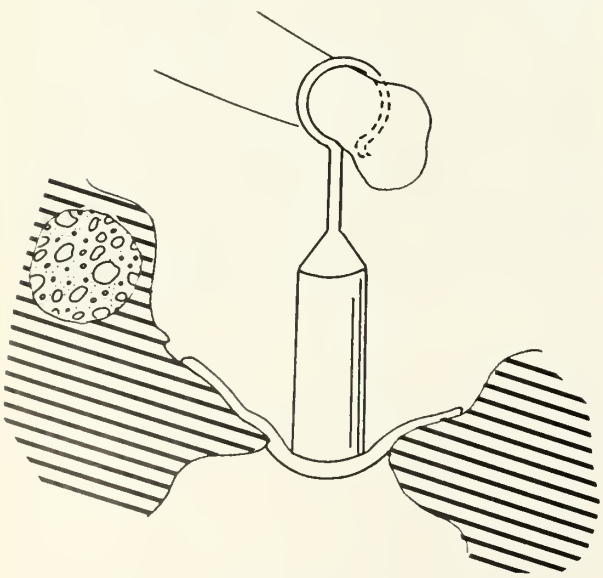


Figure 1



Figure 2

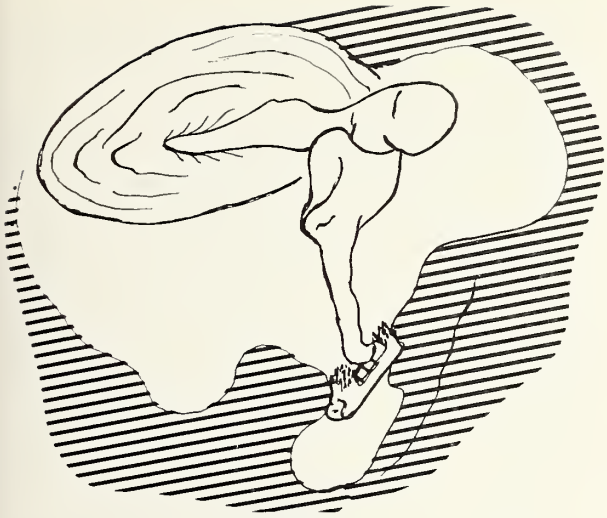


Figure 3

formed three months later, after the dizziness had subsided. It revealed that the stapes crura had been fractured and the footplate was somewhat deeper in the oval window than normal, with fibrous fixation. A routine stapedectomy was performed, with superficial temporalis fascia covering the oval window and inserting a McGee stainless steel piston prosthesis. Postoperatively, the patient experienced very little dizziness and enjoyed excellent hearing improvement *(Figure 4)*.

Case Two

A 40-year-old male contractor, fell from a ladder and sustained temporal laceration and concussion on the right side. Several weeks later, he presented with hearing loss and blocked feeling in his right ear. The examination showed a bloody discharge from the ear, laceration of the ear canal, and perforated tympanic membrane. He experienced no dizziness at that time and spontaneous nystagmus was not seen. Audiogram

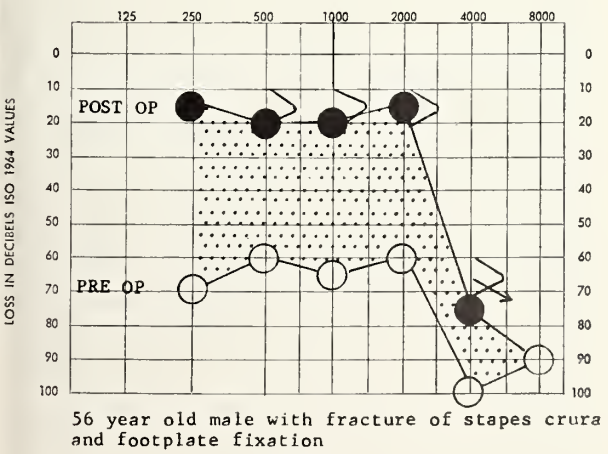


Figure 4

showed primarily a conductive hearing loss. Surgical exploration was deferred until the ear canal and ear drug had healed, and the inflammatory process had subsided. However, three weeks after the initial visit, the patient returned complaining of rather non-specific symptoms of imbalance and dizziness which were difficult for him to describe, but which were most aggravating. Electronystagmography showed spontaneous nystagmus on the right.

The patient was taken to surgery for exploratory tympanotomy and tympanoplastic repair. The primary surgical finding was fracture of the footplate of stapes with a large perilymph fistula just posterior to the anterior crura. The incus and malleus were in the normal position, but had a very loose articulation and, obviously, had been involved in the injury. The incudostapedial joint was intact, but presented a very loose membraneous attachment. Stapedectomy was performed, covering the oval window with a superficial temporalis fascia graft, and a stainless steel Teflon piston was inserted. Postoperatively, the dizziness was controlled immediately and the hearing result was relatively good *(Figure 5)*.

Case Three

A 21-year-old male student, sustained multiple skull fractures in a motorcycle injury, including a temporal bone fracture on the left side. He was seen in consultation two weeks after the accident because of the persistent facial nerve paralysis, which had been present since the head injury. X-ray examination showed a longitudinal temporal bone fracture with injuries across the middle ear, and a comminuted fracture of the

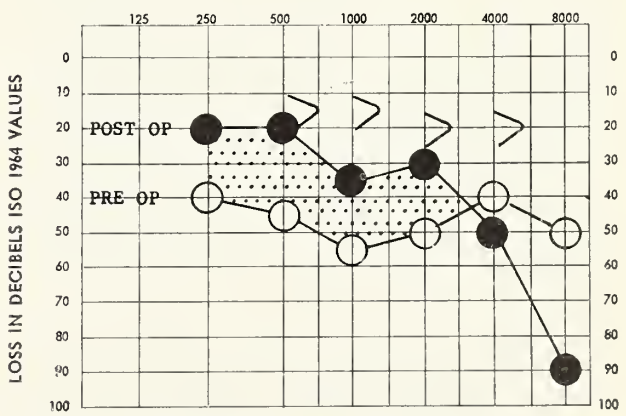


Figure 5. Forty-year-old male with fracture of stapes and perilymph fistula.

mastoid bone. Audiometric examination showed mixed hearing loss in the left ear with a sensorineural component, primarily in the high frequencies *(Figure 6)*.

The middle ear cleft and facial nerve was explored and multiple injuries were found. The malleus had been twisted, incus was dislocated into the antrum, and the superstructure of the stapes was missing. There was a significant amount of inflammatory tissue in the area of the oval window. Multiple fragments of bone were found inferior to the antrum, with the facial nerve pinched in its vertical segment just below the lateral semicircular canal. The tympanic bone had been comminuted and the ear drum was largely destroyed.

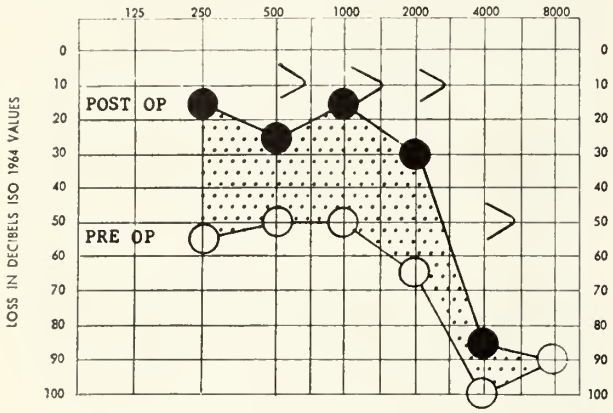


Figure 6

The facial nerve was repaired, and the tympanic membrane was grafted with a temporalis fascia graft on the under surface of the remnant of the ear drum. The incus was removed and saved, because it was impossible to do satisfactory ossiculoplasty with the severe damage and a marked inflammatory reaction. One year later, when the ear was reopened under local anesthesia, the middle ear looked surprisingly normal, with good mucosa and a near-normal appearing eardrum. The incus was absent and there was twisting of the malleus and absence of the superstructure of the stapes. The footplate looked entirely normal. The saved incus was transposed with the long process of the incus on the footplate, with the short process notch lying against the malleus. Postoperative audiogram showed useful hearing improvement *(Figure 6)*.

Case Four

A 13-year-old male fell from a gymnastic rope and suffered a head concussion six weeks prior to his first office visit. Hearing loss was his chief complaint, but he also experienced tinnitus and loss of balance. Physical examination produced essentially negative results. X rays were negative. Electronystagmography showed a depressed labyrinth on the right side, with no spontaneous or positional nystagmus. Audiogram showed mixed hearing loss in the right ear, with 42 per cent discrimination *(Figure 7)*. The bone conduction level was felt to be unreliable. Surgical exploration was recommended.

At surgery, the findings included: excessive mobility of incus, a significant amount of scar tissue around the

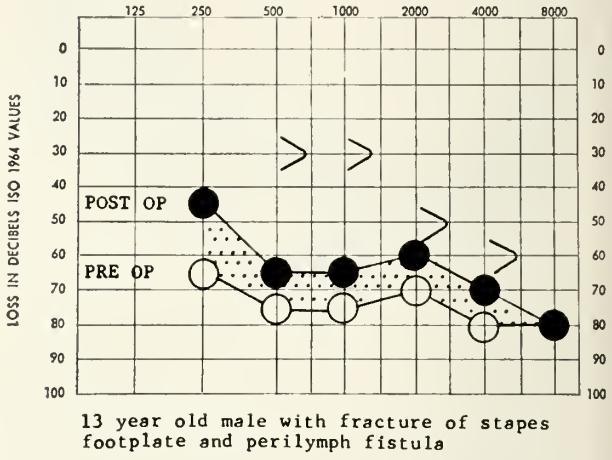


Figure 7

incus-stapes complex, and scarring between the tympanic membrane and incus. When the scarring was removed, the fracture of the footplate just posterior to the anterior crus was found to contain a marked perilymph leak. This was closed with lobular fat graft. Because the postoperative audiogram showed a marked conductive hearing loss, a second operation may be necessary to close this conductive loss if the discrimination score will justify a second surgical intervention. The patient experienced no further dizziness after surgery, and tinnitus was improved.

Case Five

A 29-year-old male pharmacist, perforated his right eardrum with a rattail comb and since that time was experiencing pain, hearing loss, and slight dizziness. Clinical examination showed a traumatic perforation of the posterior-superior quadrant. Audiogram showed mixed hearing loss in the right ear with 84 per cent discrimination *(Figure 8)*. No spontaneous nystagmus was evident. The patient returned one week later complaining of recurrent, severe dizzy spells, and deteriorating hearing. Exploratory tympanotomy was performed. Pathological findings included fractured stapes in the mid-portion of the footplate, marked impaction of the anterior part of the footplate deep into the vestibule, and loose incudostapedial joint. The ear had minor congenital abnormalities, including a very long and thin stapedius tendon and the absence of a bony over-

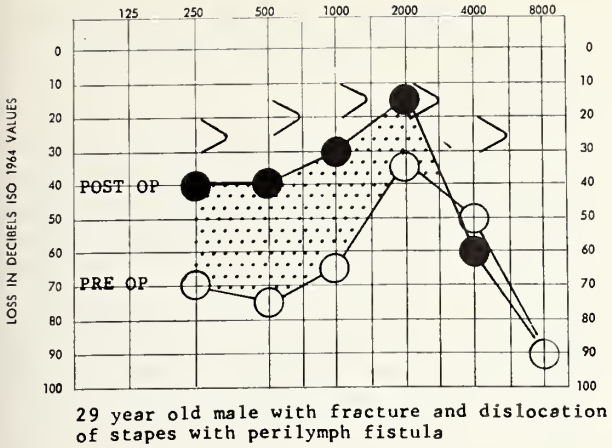


Figure 8

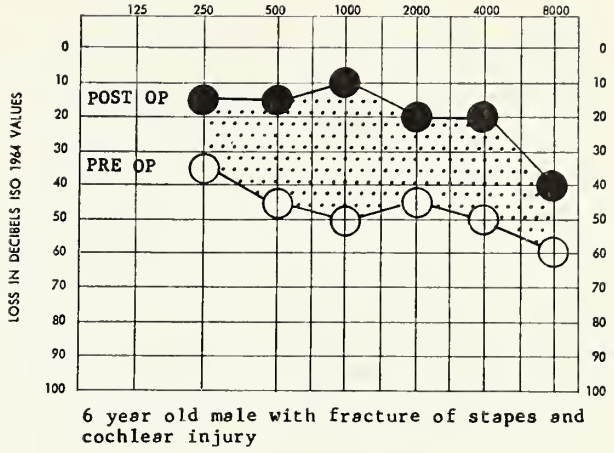


Figure 9

hang of the tympanic bone over the incus-stapes complex. There was a large fistula on the anterior edge of the footplate. The stapes was removed, and a Schuknecht stainless steel and wire gelfoam prothesis was put in place in the oval window, and crimped over the incus. He had no further dizziness after surgery and experienced a moderate improvement of hearing. This was in 1972, at the end of the unfortunate wire-gelfoam era. At this time, we believe the oval window should be covered with some sort of tissue graft.

Case Six

A 6-year-old male was brought to the emergency room with bleeding from the left ear. He had fallen off a sled and punctured his eardrum with a weed or stick. He had been extremely nauseated and dizzy since the injury. The audiogram showed 40-45 dB conductive hearing loss. Electronystagmography verified spontaneous nystagmus. The patient was admitted to the hospital and taken to surgery the next morning.

Exploration revealed a small perforation of the posterior-superior portion of the ear drum, and the middle ear filled with blood clots. Injuries to both the incus and stapes bone were found. The incus had been dislocated posteriorly, and the stapes bone had been severely tilted, angulated, and slightly depressed in the oval window. The angular ligament was intact and no fistula was present. Because good contact could not be made between stapes and incus by manipulation, a small piece of cartilage was inserted. Postoperative course was normal and the dizziness rapidly subsided. The audiogram *(Figure 9)* six months later showed excellent hearing.

Case Seven

An 8-year-old female presented in January 1974, complaining of severe dizziness and nausea which started one day following a Q-Tip injury to the left ear. There was a large traumatic perforation in the posterior-superior portion of the left ear and severe nystagmus to the left. The audiogram showed a very severe mixed hearing loss. She was taken to surgery that evening, and the findings included ragged traumatic perforation of the ear drum and markedly inflamed tissue around stapes, incus, and malleus. The stapes had been completely dislocated from the incus and jammed deep into the vestibule, with perilymph fluid flowing freely from the oval window. Stapedectomy included covering the oval window with superficial temporalis fascia and inserting a stainless steel piston. The patient's dizziness, nausea, and vomiting were controlled immediately. Postoperative hearing tests showed severe sensorineural hearing loss *(Figure 10)*.

Case Eight

A 3½-year-old female injured her right ear with a

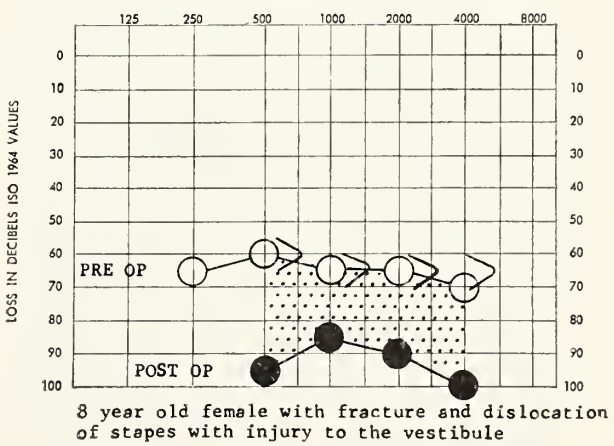


Figure 10

Q-Tip in February 1968. She had been very dizzy, with nausea and vomiting since the injury. The ear canal was full of blood and there was a marked irregular laceration of the tympanic membrane. Electronystagmography showed nystagmus to the right. Audiogram showed a hearing loss in the right ear of 50-60 dB; an accurate bone conductive level could not be determined. She was taken to surgery, where fracture of the footplate with a fistula was found. There was a large traumatic perforation of the ear drum, involving 50 per cent of the eardrum. After moving the periosteum from the footplate, a small piece of lobule fat was used to cover the fistula. Temporalis fascia was used on the medial surface of the tympanic membrane to repair the perforation. The dizziness and nausea were considerably improved the next day, and the final hearing results were better than anticipated *(Figure 11)*.

Case Nine

A 71-year-old female presented with a history of bilateral hearing loss and ear infections. She gave a history of hearing loss in the right ear since early childhood, when a kernel of corn lodged in her right ear. There had been considerable difficulty in removing this foreign body and, following this incident, she had several years of chronic purulent discharge, however, she has not had any infection for many years. Clinical examination showed scarring of the right ear drum. The Weber test lateralized the right ear. The audiogram showed mild left sensorineural hearing loss and marked mixed hearing loss in the right ear of 70-80 dB. She was taken to surgery, where fracture of the right stapes crura with much scar tissue around the oval window was found. The footplate was fixed; a routine stapedectomy was performed. The patient had excellent hearing after surgery. She did not return for a followup audiogram, because she "didn't feel that it was necessary."

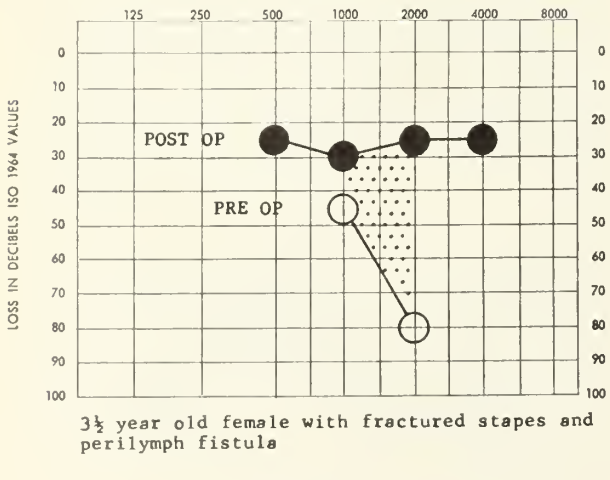


Figure 11

Comment

In reviewing the above cases and studying other reports on injuries to the ossicles, and particularly the stapes, several conclusions can be drawn. Injuries to stapes from head trauma are not ordinarily of emergency nature and, indeed, most of the victims do not come to a physician until months or years later. They present themselves with a primary symptom of hearing loss. Dizziness from an associated inner ear injury also may occur but is unusual. The results of surgical repair of these injuries are generally excellent and are comparable to other tympanoplastic procedures. The facial nerve often is involved and, if this needs to be repaired, it may be advisable to repair the facial nerve and tympanic membrane in the first operation, leaving ossiculoplasty for a later date.

Penetrating injuries to the middle ear cleft usually are seen on an emergency basis. These patients most often will experience bleeding from the ear, dizziness, and hearing loss. If stapes is involved, a high percentage of patients will have fracture of the footplate with perilymph fistula. It is imperative that such patients be operated on as quickly as possible. The hearing results following surgery are reasonably good. The perilymph fistula should be repaired with a tissue graft. Some patients with fractured footplate and perilymph fistula will experience symptoms of vertigo, nausea and vomiting. The symptoms are relatively mild in some patients, because the inflammatory reaction and hemotympanum may block the fistula temporarily.

Injuries to the stapes bone are uncommon, and present a challenge to the surgeon.

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(Continued on page 501)

Acute Renal Failure

An Analysis of Eighty Patients Requiring Hemodialysis

THOMAS ALDERSON, M.D., W. TOM MEREDITH, M.D., RALPH BUBECK, M.D. *and* HUGO WEBER, JR., M.D., *Wichita*

THE SYNDROME of acute renal failure is a frequent and often devastating complication of medical and surgical illness. A variety of insults may precipitate acute renal failure, and the clinical course varies from transient oliguria to irreversible bilateral renal cortical necrosis. Despite technical innovations, such as hemodialysis, mortality remains high in acute renal failure. This high mortality is related in part to a large number of older patients presenting with acute renal failure as a complication of severe illness in other organ systems. To provide a review of our experience in the management of acute renal failure, we analyzed 80 patients admitted to the hospital between January 1973, and July 1975.

Management

The 80 patients considered in this series developed acute renal failure requiring hemodialysis. We did not include patients with transient azotemia responsive to volume expansion and diuretic therapy. The events precipitating acute renal failure are multiple and complex, and occur in a setting of serious disease. Our patient group was divided into four broad categories of basic disease: medical, surgical, traumatic, and obstetric. Individual diagnoses are listed in *Table I*. The patients were divided almost evenly between surgical and medical illnesses. Only three cases of acute renal failure in obstetric related illness were encountered, a finding described in other recent series. Surgical problems were primarily related to abdominal and cardiovascular procedures. The age of the patient group is significant: 78 per cent were over the age of 40. Mortality figures for the different age groups in our series are listed in *Table II*. *Table III* summarizes overall mortality in relation to the basic disease category.

The decision to initiate hemodialysis in patients with acute renal failure requires consideration of several clinical and laboratory parameters. These parameters include the degree of hydration, nutritional status, acidosis, hyperkalemia, and azotemia. Average predialysis creatinine in our group was 9.2 mg/100 ml; BUN, 116 mg/100 ml. Hemodialysis was performed with the coil model artificial kidney, utilizing Quinton-Scribner arteriovenous shunt. Low dose heparin was given intermittently or continuously during the inter-dialysis period through the Scribner shunt. Regional heparinization was utilized during dialysis for patients with hemorrhagic complications. Several authors[1] have demonstrated the efficacy of early and intense hemodialysis in reducing mortality from acute renal failure. Our patients were initially dialyzed on a daily or alternate-day basis for a variable length of time, usually four to six hours.

The major extra-renal complications encountered during the hemodialysis period are described in *Table IV*. Particularly ominous was the presence of respiratory failure severe enough to warrant mechanical ventilation. Respiratory failure was of multiple causes, but the common end-point was the ventilator. Of the 85 per cent of the patients who expired, positive blood cultures were obtained in 35 patients. It is interesting that positive blood cultures were obtained in 19 medical patients compared to 9 surgical patients. Seven of

TABLE I

SURGICAL PATIENTS	MEDICAL PATIENTS
Mitral valve replacement	Acute pancreatitis (2)
Aortic valve replacement	Thrombotic thrombocytopenic purpura
Aortocoronary bypass surgery (3)	Rocky Mountain Spotted fever
Ruptured abdominal aneurysm (5)	Regional Enteritis
Resection of abdominal aneurysm (2)	ARF post IVP (3)
Appendectomy	Pneumonia - sepsis
Cholecystectomy/diverticulectomy	Rheumatoid vasculitis
Femoral vein thrombosis	Hydrocarbon toxicity (3)
Perforated sigmoid diverticuli (2)	Aspirin overdose
Cholecystectomy with pancreatitis	Heroin overdose
Perforated Meckel's diverticulum	Diabetic - metabolic acidosis
Hysterectomy (2)	Septicemia
Gastric outlet obstruction	Salmonellosis - colon infarct
Reticulum cell sarcoma	Staphylococcal septicemia
Exploratory laparotomy	Diagnosis not established antemortem (2)
Bowel Perforation	Acute glomerulonephritis (2)
AP resection for diverticuli	Interstitial nephritis (2)
CA of colon (3)	Drug toxicity
TRAUMA PATIENTS	Obstructive uropathy (7)
Hip fracture (2)	Intravascular hemolysis
Automobile accident (5)	Pelvic abscess with septic shock
Industrial accident	SLE
Gunshot wound	Nephrosclerosis
Hit by a car (pelvic fx)	Bilateral renal artery obstruction
	OBSTETRICAL PATIENTS
	Toxemia of pregnancy (3)

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

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TABLE II

Mortality in Relation to Age

Age	No. Males	No. Females	No. Expired	% Total
10	0	1	1	100%
20	5	6	4	36%
30	4	2	2	33%
40	4	5	2	22%
50	8	3	4	36%
60	12	10	16	73%
70	13	6	11	58%
80	0	1	0	0%
	46	34	40	50%

the 9 surgical patients expired, and 8 of the 19 medical patients expired. Intensive hemodialysis has not been found to affect mortality in sepsis, and 57 per cent of our patients with a positive blood culture expired. Gastrointestinal bleeding was a common problem, but rarely was it solely responsible for death. Rather, it accompanied multiple complications in critically ill patients.

Intensive hemodialysis permitted maximum nutrition, orally and parenterally, and obviated mounting azotemia, acidosis, and fluid accumulation. Hypercatabolism was especially common in surgical and traumatic illness and resulted in poor wound healing, infection, and prolonged inactivity. In patients where oral nutrition was impossible, parenteral hyperalimentation was started early in the course of renal failure, utilizing a commercial mixture of 1-amino acids and glucose. Hyperalimentation solutions were delivered through a subclavian catheter into the superior vena cava, or through a T-tube into the Scribner shunt. Meticulous nursing care accounted for a low incidence of complications during parenteral hyperalimentation.

Concentrated salt poor albumin in 25 gm aliquots was employed during the dialysis period to correct

TABLE III

Mortality in Relation to Basic Illness

Category	No. below Age 40	No. below Age 40 who expired	%	No. above Age 40	No. above Age 40 who expired	%
Medical	8	3	38%	30	13	43%
Trauma	3	2	66%	7	5	71%
Surgical	4	1	25%	25	15	60%
Obstetrical	3	1	33%	0	0	0%
Totals	18	7	39%	62	33	53%

TABLE IV

Mortality in Relation to Complications According to Age

	Ventilator	Positive blood culture	DIC	GI Bleeding
No. of Patients	39	35	18	30
No. Who Expired	33	20	13	18
% Total	85%	57%	72%	60%
No. pts. below age 40	8	9	6	5
expired	7	3	5	2
%	88%	33%	83%	40%
No. pts. above age 40	31	26	12	25
expired	26	17	8	16
%	84%	65%	67%	64%

hypotension induced by ultrafiltration. Albumin was likewise given in large doses to patients with preexisting deficits, third-space fluid sequestration, and interstitial pulmonary edema. Average pre-dialysis serum albumin in our group of patients was 2.7 gm/100 ml, and 54 of our 80 patients presented with a serum albumin below 3 gm/100 ml. The total albumin mass (product of plasma volume and albumin concentration) was not calculated.

Hemodialysis was performed until recovery of renal function was sufficient to permit adequate nutrition and maintain reasonable homeostasis. We were unable to obtain long-term followup data on all surviving patients, but six patients required chronic hemodialysis.

Discussion

Acute renal failure is a common complication of serious illness and is associated with high mortality. Moreover, mortality has not changed appreciably during the past quarter of a century despite the development of sophisticated monitoring and therapeutic techniques. *Table V* summarizes mortality statistics from a number of hospital centers for the past 25 years. One factor important in determining the outcome of acute renal failure is the age of the patient. Medical and surgical therapeutics has advanced, and older population is now being selected out for treatment of acute renal failure. Thus, the older individual who previously would have succumbed to pulmonary insufficiency in the postoperative state, survives with mechanical ventilation to develop acute renal failure. Experience in the Korean War and Vietnam conflict suggests that age, per se, is not the major factor in determining survival in acute renal failure, but rather it is the severity of underlying illness. Our data supports both of these concepts. Mortality from acute renal failure rises with the presence of complications in other organ systems, especially pulmonary failure. Multiple complications are

TABLE V

Acute Renal Failure Series

Swan	(Medicine 32:215, 1953)	85	48%
Alwail	(Acta. chir. scandinav. 108:95, 1954)	65	32%
Palmer	(Canadian M.A.J. 77:1078, 1957)	54	50%
9 U.S. Centers	(Arch. Int. Med. 104:108, 1959)	791	43%
Lowe	(ScottishM.J. 5:1, 1960)	95	50%
Gjorup	(Copenhagen, 1961)	87	42%
Balslov	(Am. J. Med. 34:753, 1962)	305	51%
Lunding	(Acta. med. scand. 1964)	178	58%
Kirkland	(Australian Ann. Med. 1965)	400	58%
Hall	(Ann. Int. Med. 3:515, 1970)	186	54%
Kleinknecht	(Adv. Nephrol, 1971)	500	34%
Guys	unpublished	61	60%
	Lancet 7/8/1972	109	57%
Eliahou	Proceedings-Conference on Acute Renal Failure 1973	229	61%
Brown, Cameron	Proceedings-Conference on Acute Renal Failure 1973	71	62%
Whelton	Proceedings-Conference on Acute Renal Failure 1973 (Vietnam-trauma, several series)	176	66%
Alderson		80	50%

devastating in all age groups. Civilian practice, however, selects an older population for acute hemodialysis, and the treatment of acute renal failure becomes but one facet of total patient care. Varying degrees of chronic obstructive pulmonary disease and arteriosclerotic heart disease present the potential for complications in older age groups. Extra-renal complications in the younger individual increase mortality, but it has been our experience, at least with sepsis, that the younger patient with minimal degenerative disease is more likely to survive.

Sepsis is confirmed in our study as a major factor influencing mortality. This complication is commonly present in acute renal failure following gastrointestinal tract surgery or abdominal trauma. Poor nutrition and azotemic immunosuppression hinder wound healing and promote infection. Antibiotic treatment is ineffective, unless abscess cavities are drained and devitalized tissue debrided. Antibiotics, primarily excreted by the kidney, must be given in proper dosage to avoid toxicity. This is especially true of the aminoglycosides. We found serial blood levels necessary for proper antibiotic dosage during the acute hemodialysis period.

Disseminated intravascular coagulation was present in 18 patients and was diagnosed utilizing screening coagulograms which demonstrated a low platelet count, prolongation of the partial thromboplastin time, and prothrombin time. Low dose heparin was routinely given to patients during the inter-dialysis period regardless of abnormal findings on the coagulogram. The dose of heparin averaged 100 units/hour. Heparin in small intermittent or continuous dosage was employed to reduce the incidence of shunt clotting. Repeated declotting of external shunts utilizing Fogarty catheters may predispose to infection even when strict aseptic technique is followed. It likewise consumes a large amount of staff time. The dose of heparin was insufficient to prolong the Lee White clotting time, which was chosen for its simplicity and reliability in following heparinization. We speculate heparin was beneficial not only for patients with documented disseminated intravascular coagulation, but also for patients with local intravascular coagulation incapable of being diagnosed with current methodology. Mortality from gastrointestinal bleeding was difficult to determine in the presence of multiple, potentially lethal complications.

Established renal failure in our patients was accompanied by positive fluid balance, primarily in surgical patients. Variable combinations of pulmonary interstitial edema, sequestered third-space fluid, and reduced serum albumin level and plasma oncotic pressure were present. Attempts at ultra-filtration with hemodialysis precipitated hypotension, and concentrated human albumin was given intravenously to increase plasma oncotic pressure, so that fluid could be mobilized and removed during hemodialysis. An average loss of 17 lbs per patient occurred during the total dialysis period. We feel that mobilization of fluid and maintenance of dry weight is especially important in patients with pulmonary complications. Increased lung capillary permeability has been demonstrated in chronic renal failure and may occur in acute renal failure. Guyton[2] demonstrated in animals and in isolated perfused dog lung preparations that pulmonary edema occurred at left atrial pressures of 24-26 mm mercury. With a reduction of plasma protein concentration to 50 per cent of normal, pulmonary edema developed at 11 mm mercury.[3] Skillman[4] studied the pulmonary effects of colloid and non-colloid infusions in patients undergoing abdominal aortic aneurysm resections. When albumin was not given, there was a significant decrease in plasma oncotic pressure, total protein and albumin concentration, and circulating albumin mass. These authors concluded that intraoperative use of albumin solutions may be important in reducing third-space fluid losses and pulmonary arteriovenous admixture in the lung. Other authors,[5] however, have expressed concern that damage to pulmonary capillaries, for example from gram negative sepsis, will increase pulmonary capillary permeability and leak protein into the interstitial space. We feel that the combination of infused albumin and effective ultra-filtration during hemodialysis is helpful in reducing pulmonary interstitial edema and improving lung compliance. Our experience, however, is anecdotal and, despite theoretical support for the use of colloids, pulmonary insufficiency requiring mechanical ventilation clearly was associated with high mortality in our group of patients. Cameron[6] likewise found mortality rate of 91 per cent in surgical patients with acute renal failure requiring assisted ventilation. These

patients unfortunately present a spectrum of pulmonary complications including infection, edema, and atelectasis often superimposed on chronic obstructive lung disease. Previous antibiotic therapy alters flora obscuring true pathogens. It may be impossible in these critically ill patients to define precisely what abnormality is present, and therapy becomes empiric.

Cameron[7] asks a provocative question: "Why the persistently high mortality in acute renal failure?" It may well be that we have reached an irreducible minimum in terms of mortality. This pessimistic view is based on review of current series of acute renal failure. Our series confirms his impression that an older population is presenting with acute renal failure and that the highest mortality is associated with surgical operations and trauma. Mortality increases in the presence of extra-renal complications, especially respiratory failure. As complications develop in the younger patient, age becomes less a factor in determining survival and the ultimate outcome is determined by the extent of basic illness and severity of complications.

We believe that emphasis needs to be placed on the prevention of acute renal failure. For example, in one recent study[8] of acute renal failure in elderly patients, 50 per cent of the cases were precipitated by dehydration and electrolyte imbalance. Correction of fluid and electrolyte abnormalities is especially important prior to surgery in older patients.

Summary

Eighty patients requiring hemodialysis for acute renal failure have been analyzed for factors determining survival. Overall mortality was 50 per cent for the group. Of the total number, 78 per cent were over age 40 and mortality in this group was higher than that in younger patients (53% : 39%). Acute renal failure occurred in a setting of serious illness and was evenly divided between surgical and medical disease. Only three obstetric cases were represented, all in association with toxemia of pregnancy. Survival was unfavorably affected by extra-renal complications including respiratory failure, infection, and hemorrhage. Mortality in acute renal failure remains high despite early and intensive hemodialysis. Reasons for the persistently high mortality from acute renal failure are not entirely known but include an older age group of patients considered for elective and emergency operative procedures. These patients survive extra-renal complications to develop acute renal failure. Devastating illness complicated by acute renal failure in both young and old individuals is associated with high mortality. Mortality in acute renal failure may be at an irreducible minimum despite current technology. Attention needs to be directed to recognizing the individual at risk of developing acute renal failure and instituting appropriate preventive measures.

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Echocardiography

Hypertrophic Obstructive Cardiomyopathy

JAMES C. MERSHON, M.D. *and*
ARVIN ARTHUR, M.D., *Wichita*

CARDIOMYOPATHY implies disease of the heart muscle without regard to cause. The cause is often unknown or obscure, and this has led to many efforts of clarification and classification. In the past, the cardiomyopathies were classified as *primary* or *secondary*. Primary cardiomyopathies included those heart muscle diseases in which the heart alone was affected. Secondary cardiomyopathies were described when due to a known cause and associated with or due to diseases elsewhere in the body. In 1970, Goodwin[1] proposed a classification based on functional pathology. *Figure 1* is an overview of this classification and describes some of the features of cardiomyopathies.

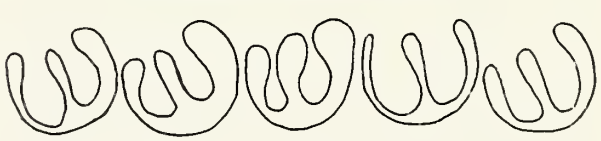
Echocardiography has been valuable in diagnosing cardiomyopathy in asymptomatic individuals. Echocardiography has proven useful in hypertrophic cardiomyopathies in following the natural history and in assessing the results of medical or surgical therapy.[2] The cause of the congestive type is often obscure, and echocardiography has been of some value in differentiating arteriosclerotic heart disease (ASHD) with diffuse involvement of the left ventricle and associated congestive heart failure from other types of congestive cardiomyopathy.[3] In patients with arteriosclerotic heart disease, even though there is diffuse involvement, it is usually more segmental, with at least some areas of the left ventricle continuing to move normally.

Our purpose is to discuss the echocardiographic features of cardiomyopathy that have been described by others, and to present a case in which symptomatic hypertrophic cardiomyopathy, without obstruction, developed left ventricular outflow obstruction that was documented by echocardiography.

Numerous publications describing the echocardiographic features of hypertrophic cardiomyopathy have appeared.[4,5] In 1973, Henry *et al.*[4] presented a comprehensive study in which they evaluated the ratio of septal to left ventricular posterior wall thickness. They found that normal individuals had approximately equal thickness of the septum and left ventricular posterior wall, and patients with hypertrophic cardiomyopathy had a ratio of septal to left ventricular posterior wall thickness greater than 1.3 : 1. On this basis, they classified individuals with a septum to left ventricular posterior wall thickness ratio greater than 1.3 : 1 as having asymmetrical septal hypertrophy (ASH). When obstruction is present, it is in the area just below the aortic valve. The anterior leaflet of the mitral valve has an abnormal position during systole in these patients, thought to be due to a disorientation of the axes of the papillary muscles. As a result, the anterior leaflet of the mitral valve moves abnormally anterior in systole, and the apposition of the anterior leaflet of the mitral valve and hypertrophied septum causes the left ventricular outflow tract obstruction. This systolic, anterior motion (SAM) of the mitral valve is a characteristic echocardiographic feature of obstruction, and is thought to be pathognomonic of hypertrophic subaortic stenosis. Not

Echocardiographic features of cardiomyopathy are described, and a case of symptomatic hypertrophic cardiomyopathy with left ventricular outflow obstruction is presented.

FEATURES OF THE CARDIOMYOPATHIES



NORMAL	HYPERTROPHIC Non-obstructive	HYPERTROPHIC Obstructive	CONGESTIVE	RESTRICTIVE
Pathology	Left or biventricular hypertrophy	Associated mitral valve abnormality and septal hypertrophy obstruct left ventricular outflow tract.	Ventricular dilatation	Reduced compliance (stiffening)
Causes	Unknown Familial Catecholamine abnormality	Unknown Familial Catecholamine abnormality	Coronary artery disease Hypertension Alcohol Iniection Etc	Amyloidosis Hemachromatosis Neoplastic Etc.
Echocardiographic findings	Asymmetrical hypertrophy (ASH)	Systolic anterior motion (SAM)	Dilated left ventricle, reduced septal and wall motion.	

Figure 1. Classification and description of cardiomyopathies.

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

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all patients with obstruction have ASH; patients with concentric hypertrophy of the left ventricle have been reported. In this situation, it is postulated that under prolonged stress, hypertrophy of the free wall subsequently developed, resulting in concentric hypertrophy involving the septum and the free wall.[5] Progression of the disease also, apparently, results in progressive loss of outflow tract obstruction.

Case Report

The patient was first seen in 1970, at the age of 27, for complaints of dizzy spells, an episode of syncope, and chest pain. He had had a history of exertional chest pain since the age of 18. For the previous two years, he had had episodes of dizziness, often related to exertion. He was referred for further evaluation by his family physician because of an episode of severe dizziness, leading to syncope and accompanied by severe pain in the left side of the chest and arm pain. These occurred while he was on a ladder, painting. His past history revealed no evidence of rheumatic fever, scarlet fever, heart murmur, or any serious adult illnesses. His family history was pertinent in that a sister died suddenly at the age of 8, of a "heart attack"; another sister died at the age of 33, following open-heart surgery for some type of "valvular heart disease"; another sister had recently been diagnosed as having an obstructive cardiomyopathy at another hospital; and his mother died suddenly at age 48, of "heart disease." A 10-year-old son of the patient has clinical evidence of hypertrophic cardiomyopathy.

The physical findings in 1970 revealed a healthy-appearing young man. His peripheral pulses were of normal volume and contour. Blood pressure was 115/70 mm Hg. Examination of the heart revealed no left ventricular overactivity. Auscultation revealed a 4th heart sound and a mid-systolic murmur, somewhat musical in quality, which was not accentuated by a Valsalva maneuver. The chest x-ray was within normal limits. Electrocardiogram showed multiple premature ventricular contractions, sometimes multifocal in origin, and producing runs of three to four successive ectopic beats *(Figure 2)*. Attempts at controlling the ventricular arrhythmias with medical management were unsuccessful; therefore, cardiac catheterization was carried out to more further define what was suspected to be a cardiomyopathy. Results of the catheterization study showed typical findings of hypertrophic non-obstructive cardiomyopathy. Subsequently, larger doses of propranolol were used with control of the chest pain, but not of the palpitations, dizziness, and shortness of breath. During hospitalization six months later, it was

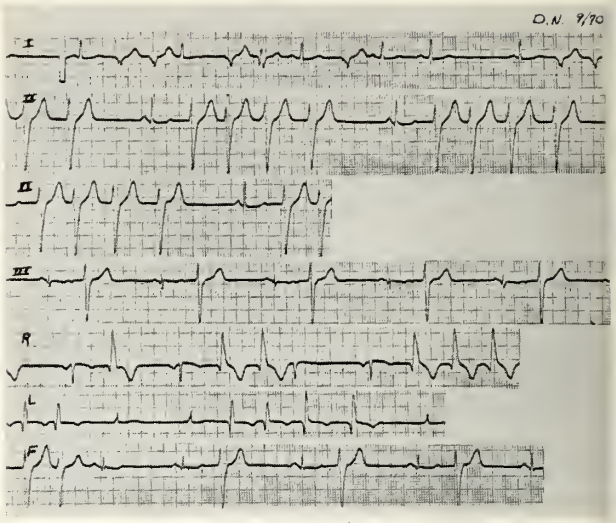


Figure 2. Electrocardiogram in 1970.

found that the arrhythmia and symptoms could be controlled by overdrive atrial pacing at 110/minute; therefore, a permanent epicardial atrial pacemaker was implanted and set at a rate of 110/minute.

The patient did well for the next two years, when he returned, complaining of exertional chest pain. Repeat cardiac catheterization studies were performed with no changes in the findings compared to the previous study; specifically, there was no obstruction in the left ventricular outflow tract and the coronary arteries were found to be normal. A bundle of His study was performed, at which time normal A : H and H : V intervals at rest and with pacing, and normal sinus node function were demonstrated. He was placed on a larger dose of propranolol and did well until 1973, when he reported that for the previous six months he had been experiencing mild episodes of exertional dizziness, but no other symptoms. Monitoring the electrocardiogram revealed no arrhythmias, and the pacemaker rate was gradually reduced over a two-day period, with no arrhythmias detected.

An echocardiogram was performed for the first time during the 1973 admission, which showed asymmetric septal hypertrophy, but no obstruction *(Figure 3)*. During a routine examination in 1976, the patient reported increased exertional dizziness and an echocardiogram showed, following a long pause, systolic anterior motion of the mitral valve, suggesting the development of left ventricular outflow tract obstruction to explain his symptoms *(Figure 4)*. Repeat cardiac catheterization studies were not performed at this time, because he had developed urticaria at the time of the last catheterization and, furthermore, surgery was not contemplated. Instead, the dose of propranolol was increased to 40 mg four times a day. He has done well

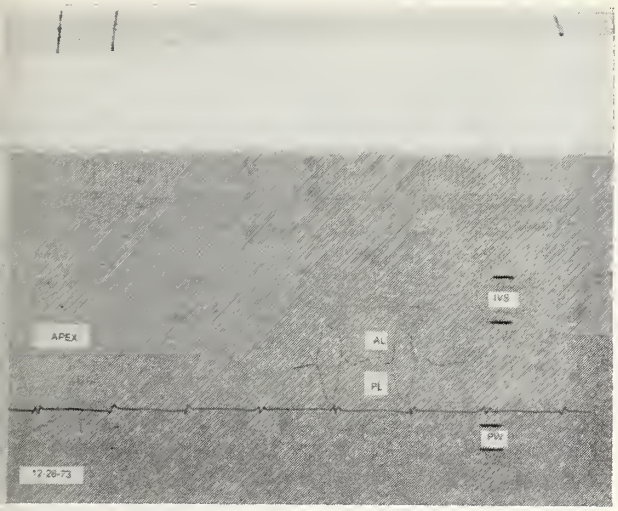


Figure 3. Retouched echogram, 1973, showing asymmetric septal hypertrophy, but no abnormality of the mitral valve. Abbreviations: IVS = interventricular septum; PW = posterior wall of left ventricle; AL = anterior mitral leaflet; PL = posterior mitral leaflet.

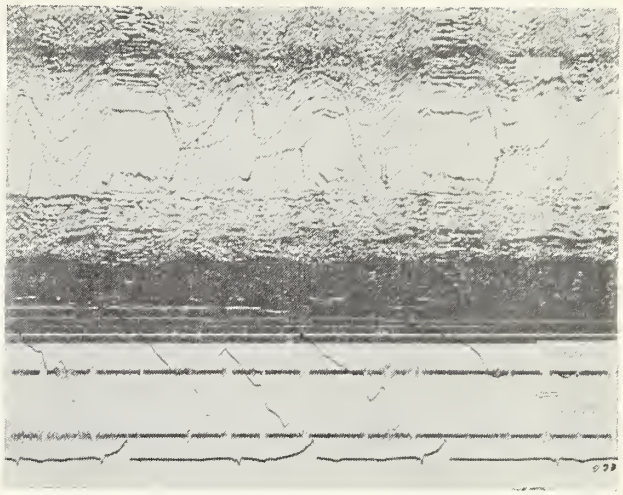


Figure 4. Echocardiogram, carotic pulse and phonocardiogram in 1976, showing abnormal systolic anterior motion (SAM) of the anterior mitral leaflet, and increase in systolic murmur after long R-R. Abbreviations: See *Figure 3.*

on this regimen. Atrial pacing was continued on demand mode because of demonstrated, prolonged sinus pauses, and the uncertainty of the possibility of the recurrence of ventricular arrhythmias.

Discussion

In summary, this patient presented at the age of 27, with symptoms of chest pain, shortness of breath, dizziness, and an episode of syncope. He was subsequently found to have hypertrophic non-obstructive cardiomyopathy with ventricular arrhythmias. Later, echocardiography was utilized to confirm the asymmetric septal hypertrophy phenomenon (ASH). Subsequently, followup echocardiography revealed changes indicative of left ventricular outflow tract obstruction. He has done well on a large dose of propranolol.

Isolated cases of progression from non-obstructive to obstructive hypertrophic cardiomyopathy have been presented.[6] The natural history of hypertrophic cardiomyopathy is unclear.[7] It appears that there is no relationship between severity of symptoms and the severity of outflow tract obstruction. Sudden death is common and occurs both in obstructive and non-obstructive forms. The average age of onset of symptoms is 28 years, and average duration of symptoms before death is 9 years. Young males with familial history are more prone to sudden death than other patients. The estimate of mortality is 15 per cent at 5 years, and 25 per cent at 10 years following onset of symptoms.

The best mode of therapy is also unclear. A Beta blocker, such as propranolol, seems to control symptoms in many patients but, unfortunately, does not always prevent sudden death. Surgery is successful in relieving the obstruction and symptoms, but may fail to protect the patient from sudden death.[7, 8]

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Weight Reduction

Gastric Plication for Morbid Obesity

LAWRENCE L. TRETBAR, M.D., THOMAS L. TAYLOR, M.D., *and* EARL C. SIFERS, M.D., *Kansas City, Kansas*

It is a paradox, at a time when masses of people still die of starvation, that obesity could assume such a marked degree of social and medical importance. Nevertheless, the problems and complications of morbid obesity have stimulated the development of numerous surgical procedures for its treatment.[1] These procedures are designed to diminish the absorption of food products or to decrease the gastric capacity. The result is an enforced reduction of body weight. However, all of the currently available surgical procedures for the treatment of obesity have demonstrated inherent difficulties. Like many other surgeons who have utilized these operations, we have looked for a safer and simpler approach for the treatment of this problem.

The operation, gastric plication, is an outgrowth of our experience gained in the treatment of gastroesophageal reflux, using the reefing technique of fundoplication.[2] Fundoplication approximates the anterior and posterior walls of the gastric fundus around the lower esophagus, and sutures them along the curvature.

A recent review of our 390 patients treated by fundoplication over the past ten years has shown that almost a third of these patients have had a significant and continued weight loss following their surgery.[3] Closer evaluation of this subgroup showed that their weight loss was associated with early satiety and the inability to eat large meals. It was obvious that fundoplication had reduced the size of the stomach. With this information in mind, an extension of the plication principle seemed obvious for the treatment of morbid obesity.[4]

The surgical objective was to extend the plication of the gastric walls so as to eliminate the reservoir capacity of the fundus and body *(Figure 1)*. Gastric plication, by reducing the stomach to a tubular structure, converts the greater curvature to the *magenstrasse,* which functions as a conduit for food.

From the Department of Surgery, Bethany Medical Center, Kansas City, KS 66102.

Presented at the annual meeting of the Kansas Chapter, American College of Surgeons, Wichita, November 22, 1975.

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Surgical Procedure

An upper abdominal incision is made. Usually, a transverse or subcostal approach is preferred. The lesser sac is opened by inserting the index finger through the avascular portion of the gastrohepatic ligament.

This paper represents a preliminary report of a new surgical procedure for the treatment of morbid obesity.

Even in obese patients this tissue is relatively free of blood vessels and can be opened widely without bleeding. The posterior wall of the stomach is freed of any adhesions with the finger. There is no need for mobilization of the esophagus or liver, since the posterior wall of the stomach is brought down and under the left gastric artery. Babcock clamps grasp the anterior and posterior gastric walls lateral and distal to the gastroesophageal junction *(Figure 2)*. Downward traction

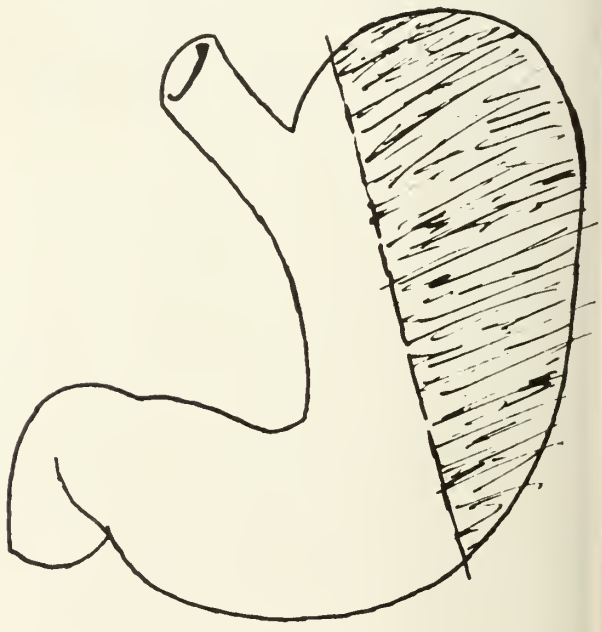


Figure 1. The stomach is reduced to a tubular structure acting only as a conduit for food.

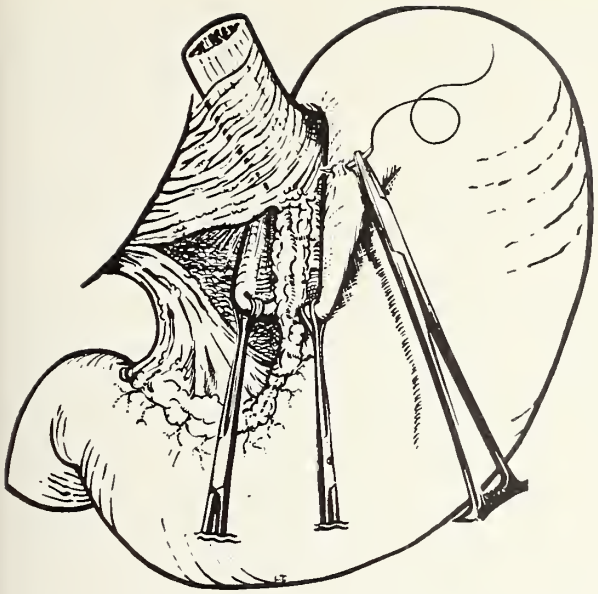


Figure 2. Ridges are to be sutured together along the curvature.

on the clamps creates ridges which are coapted along the lesser curvature. Usually, 0-Mersilene sutures are used for this purpose. The initial row of sutures are placed about 1 cm apart and the plication is carried down to the incisura.

A second row of plicating sutures is usually required, especially to obliterate the fundic pouch. These sutures are placed 1-2 cm lateral to the first row. The plication is not carried as far down as the first row, perhaps 2-3 cm above the incisura. If it is carried too far distally, the enfolding will obstruct the channel.

Insertion of a #30 Ewald tube into the distal stomach will help ensure proper calibration of the gastric canal.

Figure 3 shows the finished gastric plication. The resulting channel is 1-2 fingerbreadths in width, and can be felt easily between the bulk of plicated tissue and the greater curvature. If the channel is smaller than this, it may cause obstruction to food. A cross-section of the finished plication demonstrates the narrowed gastric lumen *(Figure 4)*.

Results

Twenty patients have been operated upon, using the gastric plication technique. Although the number of patients treated is small, the results are encouraging.

The actual operation requires about one hour of time; the hospital stay is from five to ten days. There have been no major postoperative complications and no operative mortality.

After surgery, the patients are encouraged to eat



Figure 3. The completed gastric plication.

only three small, well-balanced meals a day. After a few bites of food, the patient experiences a sense of fullness and satiety. All types of foods and liquids are well tolerated.

There is no evidence of change in bowel habits, such as diarrhea. Nor has there been evidence of nutritional deficiencies during this period of followup.

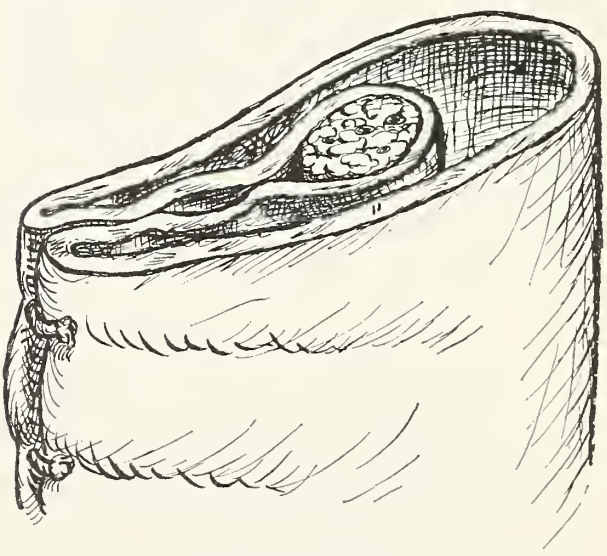


Figure 4. A cross section of the plicated stomach shows the folded gastric walls along the lesser curvature. The gastric channel measures about 4 cm.

TABLE I

Patient	*Sex*	*Age*	*Ideal Wt. (lbs.)*	*Pre-op Wt. (lbs.)*	*Present Wt. (lbs.)*	*Follow-up (mos.)*
1.	F	31	116	177	122	16
2.	F	38	101	214	171	7
3.	F	59	128	312	269	6
4.	F	22	113	300	275	6
5.	M	60	142	275	237	5
6.	F	35	140	245	216	5
7.	F	59	128	230	195	4
8.	F	29	124	224	178	4
9.	F	35	128	297	270	4
10.	F	48	116	220	192	3
11.	F	46	132	228	219	3
12.	F	34	120	209	194	3
13.	F	59	120	243	208	3
14.	F	31	101	284	265	3
15.	F	42	124	195	180	3
16.	F	19	144	265	250	2
17.	F	43	113	216	208	1
18.	F	36	128	246	232	1
19.	F	46	116	173	155	1
20.	F	35	128	230	215	1

Each patient has exhibited a steady, orderly weight loss. *Table I* shows the preoperative and ideal weights, and the amount of weight loss.

Discussion

Although the number of obese patients treated by gastric plication is small, and the period of followup relatively short, the results of treatment look extremely promising. We have been pleased by the fact that the operative time has been markedly decreased as compared to other surgical procedures for obesity. In addition, the absence of transections and anastamoses markedly simplifies the surgical approach and enhances the intrinsic safety of the operation.

Long-term followup is necessary before any major claims can be made. At the present time, studies are underway to determine the possible changes in gastric and pancreatic secretory activity. Although no absorptive changes have been noted, these factors are also being studied.

Therefore, during this period of observation, the procedure has proved to be a safe and relatively simple method of treatment for obesity.

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Emphysema + Bronchitis = Disaster

The Course of Severe COPD

THOMAS L. PETTY, M.D.,* ***Denver, Colorado***

TOGETHER, emphysema and chronic bronchitis are called chronic obstructive pulmonary disease (COPD). They represent a huge public health problem, with millions of affected individuals seeking medical care; many are disabled. Studies of the course and prognosis indicate that in spite of modern, effective therapy the disease progresses with deteriorating ventilatory function, judged by simple spirometric tests, and the prognosis for individuals with forced expiratory volume in one second (FEV_1) of 1 liter or less is quite poor.[1, 2] Nonetheless, considerable enthusiasm for therapy remains because the symptom complex can be lessened,[3, 4] exercise tolerance improved,[3, 5] hospital needs reduced,[3, 6] and gainful employment regained or maintained in certain individuals.[7]

FEV_1 is a valuable prognostic indicator. *Figure 1* offers cross-sectional data from prediction normal values in males who were judged normal in a Veterans Administration-Armed Forces study. The solid line shows that the deterioration in ventilatory function as judged by FEV_1, a simple test of expiratory flow, averages 28 cc/year in a normal military population, including both smokers and non-smokers. More recent normal values in non-smokers show a similar reduction in ventilatory function, averaging 30 cc deterioration in FEV_1 per year.[8] The data points from independent studies, including another Veterans Administration-Armed Forces study; the prognosis in COPD,[9] the often-quoted University of Chicago study by Burrows;[1] and the data from our own rehabilitation program are contained in *Figure 1*. It is quite interesting that these three data points cluster around age 60, and FEV_1 of 1 liter/second. If one makes the assumption that the individuals in these studies were normal individuals in their 20s, and that the deterioration has been linear, then the loss in ventilatory function over time has averaged 80 cc/year. A solid extension of this line from the Burrows' study[1] shows continued deterioration, in spite of outpatient management, in patients who were previously in a stable condition with chronic obstructive pulmonary disease for one year prior to entry. Thus, in this one study, the disease was indeed progressive in spite of treatment. The true course of earlier COPD is not known with certainty, but some evidence suggests that physiologic progression is not linear, and in fact is exponential.

In the University of Colorado rehabilitation study, there was a suggestion that deterioration did not occur for at least one or two years.[10] Subsequent data, however, have shown that deterioration has occurred in spite of a systematic care program for severe COPD, averaging a reduction in FEV_1 of 52 cc/year over an eight-year followup.[11] During this time, the death rate remained high in spite of a comprehensive care program.[3] The methods of systematic care have been reported elsewhere.[3, 4, 10, 11]

Briefly, care includes an indoctrination of patient and family in the use of pamphlets and a simple, patient-oriented monograph.[12] Daily bronchial hygiene is employed in most patients and, generally, includes the use of a simple hand-bulb nebulizer using inhaled bronchodilators, usually Bronkosol®. This is performed by the patient during morning, night, and also at mid-day if symptoms are present. Pharmacologic agents primarily include the liberal use of broad spectrum antibiotics instituted by the patient for each episode of chest infection, as evidenced by yellow or green sputum: oral methylxanthines (aminophylline, oxtriphylline) and

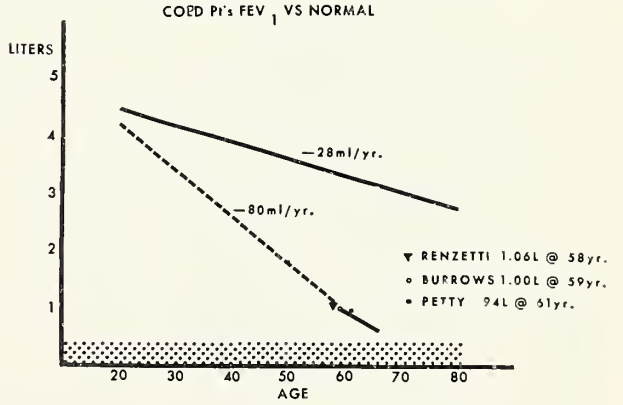


Figure 1

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Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

beta agonists (ephedrine, metaproteranol, terbutaline), diuretic drugs for patients with heart failure, and a trial of steroids in certain patients with a remote history of wheezing in childhood or with any hint of a reversible component, such as sputum eosinophilia. The use of influenza virus vaccine each fall is a wise preventative measure. Breathing training and conditioning was found scientifically valid,[13] and useful in improving exercise tolerance.[14] Long-term home oxygen inhalation, primarily using the Linde liquid oxygen walker system, was prescribed for individuals with reactive pulmonary hypertension[14] and congestive right ventricle failure, with a suggestion of improved survival. Those patients given oxygen simply for severe disability had no suggestion of improved survival.[15]

Over the nine-year period of this rehabilitation study, it has become apparent that most patients die of respiratory causes, and the mortality rate remains high in spite of this therapy. In an attempt to determine whether or not *any* improvement in survival had occurred as a result of the rehabilitation program, 72 male patients were matched by age, FEV_1, and oxygen saturation breathing air. Seventy-two male patients participated in an earlier and unrelated study on the course and prognosis of COPD (The Emphysema Registry).[16] This was not a controlled randomized cohort study, but rather a careful matching of similar patients. The two studies offered the advantage of comparing two groups of individuals exposed to the same altitude and climate, and evaluated at the same institution. *Table I* presents the age, height, FEV_1, and oxygen saturation of both groups. *Table II* presents the survival by years. The difference in survival is small and only apparent at the eight-year evaluation point. Nonetheless, the socioeconomic benefit in terms of reduced symptom complex and life outside the hospital has been worthwhile in our opinion.

Evidence to support this conclusion is contained in a study which evaluated symptomatic benefit and increased walk capability in a representative sample of the rehabilitation patients. The patients' symptom trend, the physician's assessment of the symptom complex, and the level of affective distress (anxiety, depression, and somatic concern) was measurably and significantly improved following a full year of treatment and observation.[17] The maximum voluntary ventilation (maximum breathing capacity) was also improved. It becomes clear however, that considering the adverse prognosis in the advanced case, the physicians must turn their interest to the earlier case *(Table III)*.

TABLE I
PATIENTS IN REHABILITATION STUDY VS. PATIENTS ON EMPHYSEMA REGISTRY

(Mean Values in Matching)

	Patients in Rehabilitation Study	*Patients on Emphysema Registry*	*2 Tailed T-Test*
Age	58.5	57.9	NS
Height (cm)	175	175	NS
FEV_1	1.08	1.15	NS
SAO_2	89	88	NS

TABLE II
CUMULATIVE SURVIVAL (N = 72)

Year	*Patients in Rehabilitation Study %*	*Patients on Emphysema Registry %*
1	97	90
2	90	83
3	78	76
4	68	63
5	56	47
6	49	36
7	46	33
8	44	29

The prevalence of chronic obstructive pulmonary disease is high and has been documented from a Colorado city in another study.[18] Reassessment of this same population six or seven years later has revealed that those patients found abnormal in terms of symptom complex (primarily cough, expectoration, and dyspnea) and with a simple spirometric abnormality were at increased risk of death and increased risk of dying of respiratory causes in a followup evaluation. A simple ratio FEV_1/FVC of less than 60 per cent identified a population with a nearly three-fold increased risk of death, and all of the respiratory deaths occurred in patients with a spirometric abnormality or abnormal symptom complex.[19] Therefore, should we not try to identify patients with earlier COPD in order to institute remedial therapy? In this author's opinion, we should.

Simple electronic and other office spirometers are now available which can identify spirometric abnormalities which clearly have prognostic importance. One electronic spirometer has sufficient accuracy to be useful and it is easy to use.[20]

There is no clear evidence that identification and treatment will in fact alter the natural course of earlier obstructive lung disease, but other studies have shown

TABLE III
MEASURED IMPROVEMENT

	1969	1970	P *
Patient symptom trend†	22.7	14.9	< .01
MD evaluation of symptom trend†	20.2	15.6	< .01
Patient affective distress† ..	50.6	42.7	< .01
Walk tolerance (Ft) at increasing rates and grades	400	1094	< .001
MVV (L/min)	33.4	38.6	< .01

*P = Significance as measured by single-tailed T-test.
†Low scores indicate a lower symptom trend.

that at least some spirometric abnormalities may be reversed by cessation of smoking and use of bronchodilator agents.[21] The symptom complex of chronic bronchitis can be reduced on cessation of smoking.[22] Additionally, this author would recommend prompt and aggressive treatment of each episode of purulent bronchitis with broad spectrum antibiotics, and possibly the change of occupation if measured spirometric abnormalities are present. In any case, we certainly must turn our attention to the less severe cases in order to prevent or forestall advanced and disabling and, indeed, life-threatening chronic obstructive pulmonary disease.

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The Sugar Connection

Reactive Hypoglycemias and Immunoreactive Insulin Assay

SHARFUDDIN SHAH, M.D., ***Halstead***

RECENT publicity in the popular press has led the public to believe that symptomatic hypoglycemia is quite common and is the cause of many physical and psychic ills. Many patients presenting with complaints of weakness, dizziness, and fainting have requested they be checked for hypoglycemia. This led us to review the cases of hypoglycemia diagnosed at the Halstead Hospital during the period February 1972 to February 1975.

Methodology

All of the charts with a diagnosis of hypoglycemia during the above period were collected. History, physical findings, GGT, LFT, GI series, thyroid and adrenal function tests were reviewed. Standard GTT was done. Blood sugar was done by potassium ferricyanide (autoanalyzer) method and IRI assay was done by radioimmune competitive binding method, as reported by McReynolds *et al.*[1] The results were reported by plotting these values on a single chart, plotting glucose level linearly and insulin levels as percentage increase in basal level.

Observation

During the period February 1972 to February 1975, we performed 3,000 GTTs and IRI tests. Hypoglycemia responses were found in 110 patients. Fajan *et al.*[2,3] have given excellent classification and work-up for hypoglycemias. There were only five iatrogenic cases, in addition to 110 cases of reactive hypoglycemias. We did not have any fasting hypoglycemia. We did not have any patients with specific liver enzyme defect, or any other organic causes.

Eleven patients had a history of stomach surgery, 29 had diabetic GTT curves, and the remaining 69 were functional. The sex ratio was even in alimentary and early diabetes hypoglycemia, but females with functional hypoglycemia were twice as common as males.

Patients with alimentary hypoglycemia had high insulin output, while patients with early diabetes were evenly divided: high and normal IRI. Patients with functional hypoglycemia showed 50 per cent with high IRI, 30 per cent normal, and 20 per cent low. Functional hypoglycemic patients with flat GTT accounted for 20 per cent of the total. Patients with flat GTT symptomatic of hypoglycemia were 15 in number: 6 had high IRI; 6 normal; 3 low. Insulin peak was noted in functional hypoglycemia at 1½ hours, early diabetes 1-1½ hours; but in alimentary, 50 per cent at one hour and 30 per cent at two hours. The lowest blood sugar level in functional hypoglycemia was noted at 2-5 hours, in early diabetics 3-4 hours, but in alimentary hypoglycemia 2-3 hours. The lowest blood sugar for the majority of patients was at 50 mg/100 ml or below. All patients responded to high protein, low carbohydrate diets divided into five to six meals. The patients with functional hypoglycemia needed tranquilizers as well. Patients with functional hypoglycemia were noted to have normal tolbutamide tests.

Discussion

In reviewing our hospital dismissals for 1972 to 1975, we have found that reactive hypoglycemia is not a rare disease. Our findings are quite consistent with Fajan *et al.*[3] We agree with them that high protein and low carbohydrate diets, multiple divided meals, and tranquilizers in cases of functional reactive hypoglycemia are most helpful.

Statements on hypoglycemia[4] explain symptomatology, work-up, and management of hypoglycemia.

Crofford *et al.*[5] have reviewed standard GTTs on all patients. Should the patients develop symptoms during the GTT, and blood sugar level is 50 mg/100 ml or below, the test is considered positive for reactive hypoglycemia. They cited one case report, but we have 110 cases of reactive hypoglycemia in the present series. Shah *et al.*[6,7] noted 4 per cent of their patients with flat GTT had symptoms of hypoglycemia and responded to high protein and low carbohydrate diets.

Summary

Patients who are nervous, weak, shaking, and complaining of fainting after meals should have a standard five-hour GTT test. If the results of the GTT are abnormal, the mechanism of hypoglycemia should be ex-

(Continued on page 516)

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

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Musculoskeletal Trauma

Systemic Effects

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On December 18, 1971, a young white male was admitted to Talmadge Memorial Hospital in Augusta, Georgia, with multiple trauma following an automobile accident. Injuries sustained included multiple fractures involving both femurs, pelvis, ribs and clavicles, a rupture in the left diaphragm with splenic rupture, and avulsion of the neck of the bladder. The patient was resuscitated, intubated, and placed on an Emerson ventilator. The spleen was removed, the diaphragm repaired, a suprapubic cystostomy tube placed, and tibial traction pins inserted. On admission, the PaO_2 was 61 vol % on room air and rose to 140 vol % on ventilation with 70 per cent oxygen. The day following admission, the platelet count was 40,000/cu mm (control time, 34.4) and partial thromboplastin time was 82.3 seconds. Two days post injury, a trial off the ventilator gave a PaO_2 of 46 vol %. At this time, the platelet count was 112,000/cu mm and partial thromboplastin time was 51.3 seconds (control time, 27). Fibrin split products were present in the serum. Three days later, after successful weaning off the ventilator, the patient sustained a pulmonary embolus to the right lung. PaO_2 on 70 per cent oxygen by mask was 58. At this time, the platelet count had risen to 550,000/cu mm and peaked at 900,000/cu mm ten days post injury. The embolus was treated with heparin. This case stimulated an experimental study to delineate the association of respiratory failure and coagulation changes following musculoskeletal trauma.

Methods

Ipsilateral fractures of the tibia, fibula, and femur were produced in 12 dogs under short-acting barbiturate anesthesia. A pulmonary artery flow probe and pressure catheter were placed three days prior to injury. The animals recovered and ambulated on three legs without difficulty. No intravenous fluid or blood was administered. Hematologic, lipid, and hemodynamic studies were made over 11 days. Lung biopsies three and seven days post injury were studied for intravascular coagulation and embolic fat, as well as routine histology.

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

Address reprint requests to Dr. Jacobs.

Results

Hematologic Changes. The hemoglobin decreased 29 per cent. The white blood cell count (WBC) increased 36 per cent, the corrected sedimentation rate increased four-fold. Coagulation studies showed a 33 per cent decrease in platelet concentration, and 59 per cent increase in partial thromboplastin time *(Figure 1)*.

Lipid Studies. Triglycerides increased nearly two-fold, cholesterol showed a slight increase, and phospholipids a slight decrease. The ratio of cholesterol to phospholipids, which is inversely related to suspension stability, increased 68 per cent *(Figure 2)*. Lipoprotein electrophoresis showed an increase in the cholesterol containing pre-beta fraction from 15 to 35 per cent at the expense of the alpha portion.

Hemodynamic Studies. Immediately after trauma, the mean pulmonary artery pressure increased 16.5 per cent, but pulmonary flow decreased by 22 per cent. Pulmonary vascular resistance (pressure/flow) therefore increased 25 per cent *(Figure 3)*, and was still elevated the day following injury. Arterial oxygen tension decreased 11 per cent. Pulmonary shunting increased from 11 to 30 per cent on the day following injury, and was slowly returned to normal. Oxygen content of the arterial blood was also decreased for several days following injury *(Figure 4)*. The delivery of oxygen to the systemic tissues, content times flow, decreased 13 per cent the first day post injury.

Histologic Studies. Lung biopsies three days and seven days following trauma showed intravascular fibrin deposits, alveolar membrane thickening, septal invasion by inflammatory cells, and frequent intravascular fat emboli.

Discussion

The decrease in hemoglobin concentration and increase in WBC are to be expected following the nature of trauma without resuscitation. The decrease in platelet concentration and prolongation of partial thromboplastin time have been described in trauma patients in the past, but have been attributed to hemodilution and transfusion with bank blood deficient in clotting factors.[1,2] This animal preparation demonstrates that such

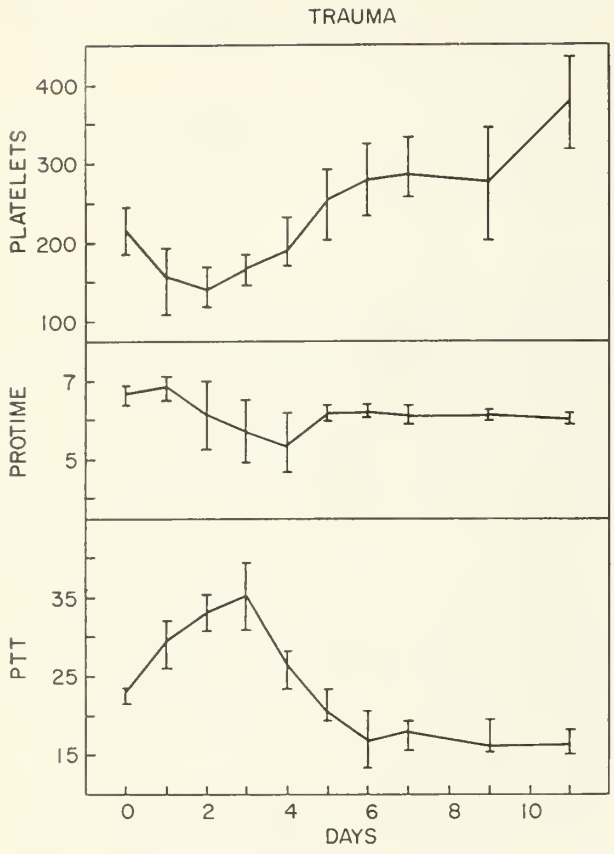


Figure 1. Musculoskeletal trauma resulted in a deficiency of platelets and partial thromboplastin on the first three days followed by an over-response of replacement.

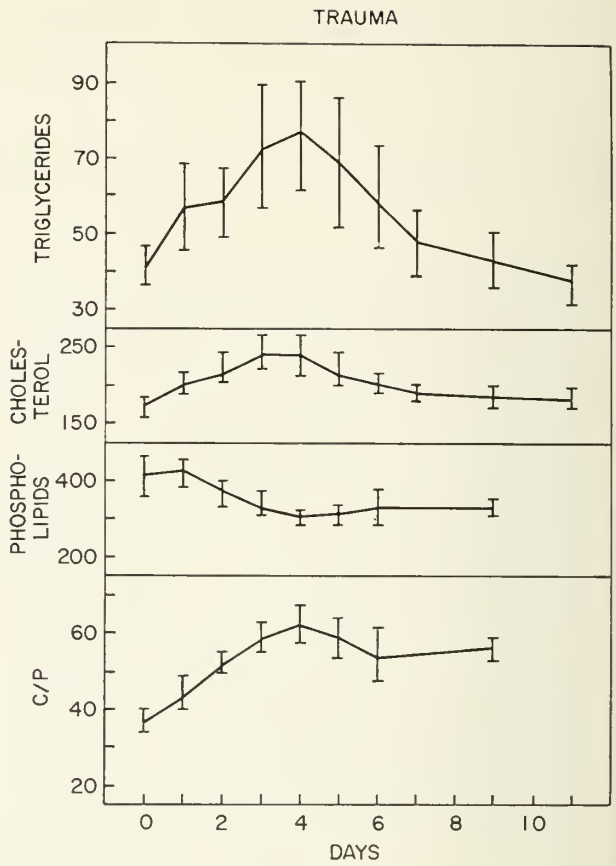


Figure 2. The "starvation state" post injury was evidenced by the increase in triglycerides.

changes are a result of musculoskeletal trauma alone. A consumptive coagulopathy exists in which platelets and thromboplastin are not available in sufficient quantities to maintain normal levels due to their rapid consumption in the hypercoagulable post trauma state.

The increase in triglycerides are the result of lipid mobilization subsequent to release of epinephrine following trauma. The marked increase in the cholesterol phospholipid ratio results in a decrease in lipid suspension stability in the blood. There was also an increase in the cholesterol containing pre-beta lipoprotein fraction. The combination of these latter two changes could result in agglomeration of lipid particles to become of sufficient size to form embolic fat in the lungs. This could contribute to the cholesterol-containing emboli demonstrated by LeQuire.[3] While bone marrow is recognized to be a source of pulmonary embolic fat, it does not contain cholesterol and, therefore, another source must be postulated.

Inadequate diffusion of oxygen from alveolus to pulmonary capillaries results in a decrease in arterial oxygenation. The pulmonary deficit is quantitated by the amount of pulmonary shunting. In addition, the decrease in hemoglobin concentration results in a decrease in arterial oxygen content. In our case, there was also an increase in pulmonary vascular resistance, which served as an impediment to the needed increase in cardiac output to compensate for inadequate arterial oxygenation. The result was a decrease in the delivery of oxygen to the systemic tissues. Histologic studies of the lung demonstrated intravascular fibrin deposits, indicating intravascular coagulation.[4] An additional impediment to oxygen transfer was the thickening of the alveolar membrane. Intravascular fat emboli are known to potentiate intravascular coagulation.

A Suggested Mechanism of Pathogenesis of Posttraumatic Insufficiency Musculoskeletal trauma produces mechanical tissue damage, ischemic tissue injury, and changes in the microcirculation due to blood loss. The release of tissue thromboplastin produces a hypercoagulable state resulting in consumptive coagulopathy. This is not manifest by frank hemorrhage but rather by trapping of microemboli and platelets in the lungs. The posttraumatic starvation requires fat mobilization and an increase in lipid levels in the blood. These are associated with an increase in the cholesterol phospholipid

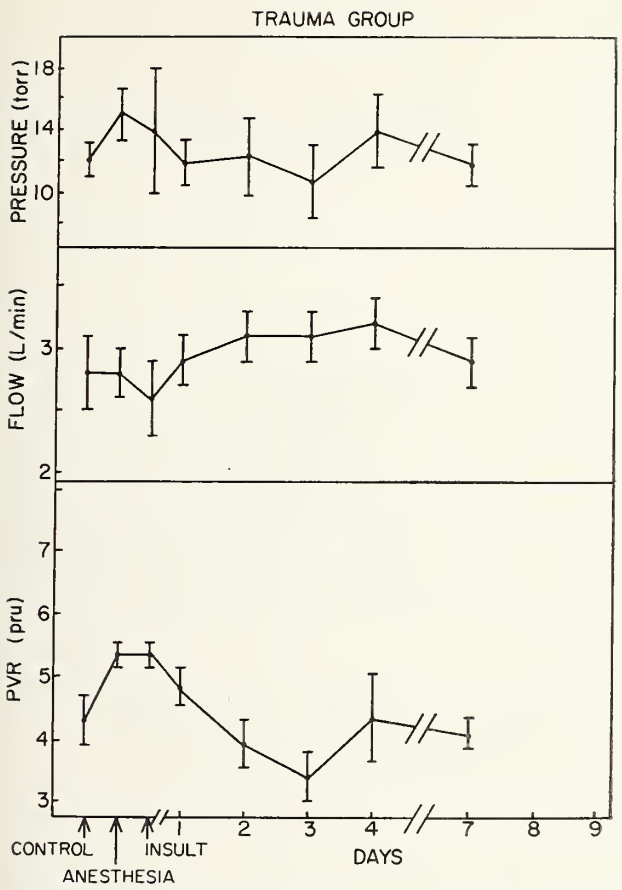


Figure 3. Mean pulmonary pressure increased in excess of the decrease in pulmonary artery flow.

ratio, which leads to lipid particle agglomeration and formation of cholesterol containing pulmonary fat emboli. The release of fat from bone marrow also contributes to the emboli which stimulate aggregation of platelets. Addition of thromboplastin release leads to consumptive coagulopathy. The pulmonary lesion increases the alveolar arterial oxygen gradient causing arterial hypoxia. The usual increase in cardiac output to compensate for hypoxia is resisted by hypovolemia and an increase in vascular resistance, due to the release of vasoactive amines both from traumatized tissue and agglutinating platelets. The decrease in oxygen delivery, content times flow, leads to inevitable tissue ischemia.

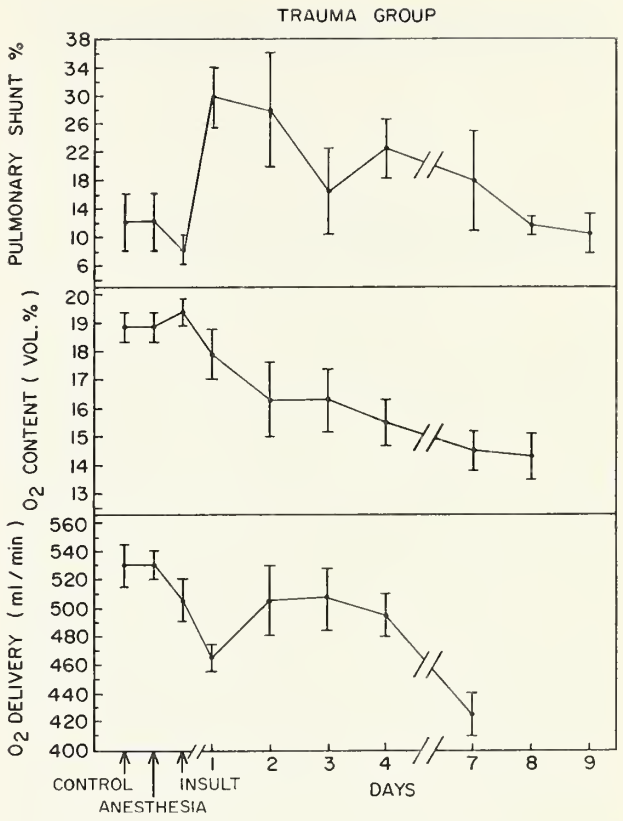


Figure 4. The increase in pulmonary shunt combined with a decrease in arterial oxygen content produced a fall in oxygen delivery.

Conclusion

Pure musculoskeletal trauma without resuscitation produces significant coagulation changes which may be responsible for the associated pulmonary failure and tissue ischemia.

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Clinical Measurement

The Thermodilution Method

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ESTIMATION of cardiac output in vivo by the method of thermodilution (TDCO) was originally described by Fegler in 1954.[1] In the ensuing years, this procedure has been improved and simplified into one practical for intensive care units equipped for intravascular pressure monitoring. Numerous reviews of experience with the procedure and comparisons of the accuracy of this method with other methods of indicator dilution estimation of cardiac output emphasize the accuracy and reproducibility of this method.[2-8] Several commercially produced computers and catheters have become available increasing the accessibility of this procedure.

Our computer was obtained and determinations of cardiac output by this method have been made since May 1973. Initial experience in 1973 and 1974 produced disappointing results with an average variance from the mean (the difference between the highest and lowest single determinations divided by the mean and expressed as a percentage) of 35.3 per cent in 1973, and an average variance from the mean of 24.9 per cent in 1974. The computer was returned to the manufacturer on two occasions and was verified functional and properly calibrated.

In an attempt to improve the clinical usefulness of the device, an organized review of pertinent literature was undertaken and in vitro model of the conditions under which the device is operated was constructed.

TDCO Procedure

The method of estimation of cardiac output by thermodilution is an indicator dilution technique. A bolus of indicator material (saline or dextrose solution), which has a different temperature than that of the blood (usually at room temperature or chilled to 0 C), is introduced into the central circulation and the change of temperature is recorded by a thermistor located downstream from the injection site. The sum of this change of temperature with respect to time is inversely proportional to the flow rate between the injection site and the measurement site.

The unit in use at the institution is the Edwards Model 9500 Cardiac output computer in conjunction with the Edwards Swan-Ganz catheters. The catheter is a 4-lumen, 7-French catheter designed to be placed in the venous circulation with the tip of the catheter traversing the chambers of the right heart and the tip located in the pulmonary artery. One lumen inflates the balloon at the tip of the catheter facilitating passage through the right ventricle by direction from the flow of blood. A thermistor is located near the tip of the catheter for measurement of temperature of blood in the pulmonary artery. The other lumina through the catheters have openings at the tip of the catheter (for pressure measurements during insertion and for monitoring of pulmonary artery pressure and pulmonary artery wedge pressure), and at 30 cm proximal from the tip of the catheter (for CVP measurement and for injection of the indicator bolus). This orifice will be in the vena cava or right atrium following normal placement of the catheter.

Validity assessment of modifications of the in-vivo technique, in an in-vitro model of the environment is presented.

The computer is an analog device which monitors the pulmonary artery temperature and solves the following calculation when activated concurrently with the injection of a bolus of indicator:

$$\text{Cardiac Output} = \frac{(1.08)\ (0.825)\ (60)\ V\ (T_B - T_1)}{T_{B\,(t)}\ d\,t}$$

L/min

The variables involved include the ratio of specific heats of blood and indicator (5% Dextrose in water) which equal 1.08; a correction factor for warming of the indicator as it passes through the catheter to the lumen located 30 cm from the tip of the catheter (0.825); conversion from seconds to minutes (60); the volume of indicator injected (10 cc); the difference

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Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

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of temperature between the blood and the indicator ($T_B - T_I$); and the integral of blood temperature change with respect to time. The constant factors are collectively adjustable by a back panel adjustment on the computer. Prior to a CO determination, the temperature difference ($T_B - T_I$) is entered into the computer and thermistor bridge is balanced for a zero output into the computation section of the device. A fixed sampling time is selected by the user and simultaneously the bolus of indicator is injected and computation initiated by a push button. Data sampling and computation continues for the pre-set times and the integral change in temperature is measured, computed, and is displayed as a result in liter/minute flow.

Using the method, an accuracy of ±5 per cent (10% variance from the mean) is expected according to the manufacturer. A means of connection to an external recorder for transcription of the curve of change of temperature versus time is provided, but is described to be an unnecessary accessory for ordinary use of the instrument.

Several variables affecting the accuracy are encountered in the performance of this procedure. They include:

1. The position of the thermistor. Ideally, the thermistor should be located in the main pulmonary artery near the point where it bifurcates into the left and right pulmonary artery, in order to allow maximal mixing of the bolus and to provide measurement of the temperature curve generated by this bolus. If the thermistor is located in a more distal location, the integral of the curve will be low, and the output calculation erroneously high. If the thermistor lies against the wall of the artery, a similar error occurs. The originally available thermodilution catheter was especially prone to these problems,[8] and has been superseded by an improved catheter (Model 93A-118-7F) with the thermistor located 4 cm proximal to the tip of the catheter.

2. The time interval of data collection. This variable is determined by the selection of one of the number of fixed "computation times" selected by the user. The "compute time" selects the duration of the curve of change of temperature that is integrated by the computer. If the selected time does not include a sufficient amount of the curve as the temperature returns toward baseline, the integral will be low and the output erroneously high. If the computation time is too long, fluctuations of the baseline temperature caused by respiration and other factors will result in a high value for the integral, and a low output (see factor number 6).

3. The duration of the injection of the bolus. This factor is intimately related to the time interval of data collection, in that a slow injection will result in a smaller change of temperature over a longer period of time, and requires a longer data collection time than does a fast injection time. Injection time that is too slow also changes the factors relating to the intracatheter heating of the injectate and decreases the signal to noise ratio.

4. The "temperature difference." This factor is determined by the user prior to each output determination and is the difference between the patient's body temperature (as recorded by a rectal probe) and the temperature of the injectate (as measured by a mercury thermometer). The amount of temperature difference also determines the signal to noise ratio (S/N) for the procedure. When the temperature difference is high, such as using iced injectate instead of room temperature injectate, the S/N is high and less electrical noise error is introduced. However, the use of iced injectate is more prone to error from accidental warming of the injectate in the user's hand or from prolonged exposure to the room air immediately prior to injection.

5. Baseline. Balancing the thermistor bridge for a state of zero input into the computation section of the computer is necessary. If the bridge is imbalanced, so that an erroneously increased area results under the curve of temperature versus time, the computed output would be erroneously low. Similarly, fluctuations in the pulmonary artery temperature due to loss of heat from the respiratory tract may be encountered in patients with increased minute ventilation.

6. The actual thermodilution curve measured by the machine may be recorded using a curve tracer while the procedure is performed. Analysis of this curve is useful in determining the appropriate duration of data collection, the adequacy of sampling of the blood-injectate mixture, and noting the absence of improper baseline calibration or fluctuation.

In Vitro Model

In order to examine the behavior of this cardiac output computer under conditions similar to those usually encountered in vivo, a model was constructed consisting of a roller pump capable of delivering physiological flow rates, a 100-liter temperature regulated bath, and a combination of tubing and chamber to simulate the central venous circulation, right ventricle, and pulmonary outflow tract. Solution consisting of 35 per cent glycerine by volume was pumped through the circuit at known flow rates, and serial determinations of cardiac output were made.

Modification of Procedure

Aided by the experience reported in literature, the variables affecting accuracy were examined and modi-

fications to the usual procedure were instituted. In order to better assure proper placement of the thermistor, improved catheters with the thermistor located 4 cm proximal to the tip were obtained. If any suspicion of disadvantageous catheter placement was entertained, catheter position was verified by x-ray or fluoroscopy of the chest. The best indicator of thermistor malposition is a thermodilution curve, which demonstrates sudden fluctuations in temperature, instead of a curve with a well-defined peak and a smooth exponential downslope or curves which fail to demonstrate a change of temperature of more than ½ C. These can be improved by repositioning the catheter.

The time interval of data collection, or "computation time," can be manually adjusted on this computer and requires, for proper adjustment, a curve tracing, so that data collection will terminate soon after the "knee" of the downslope curve is passed. The duration of injection of the bolus is recommended to be approximately 4 seconds, but most authorities suggest as quick an injection as possible, and we routinely inject the 10 cc bolus in 2-3 seconds. Immediately after injection of the bolus, blood is aspirated back into the syringe to minimize the continued absorption of heat from the blood by the iced solution remaining in the catheter.

The variable of temperature difference is potentially a source of clinical error. The manufacturer recommends a bath of sterile dextrose lying in a bath of ice, but we found difficulties in achieving and maintaining consistent temperatures under 4 C using this method. Forrester *et al.*[7] recommend the use of prefilled and capped plastic syringes which are directly immersed in ice water. They experienced no problems with contamination of the dextrose by this method, and we have routinely used this modification with no recognized complications. The temperature of the injectate is more consistent and closer to 0 C by this method. The patient's temperature is measured rectally, once at the beginning of the procedure and again before each set of output determinations.

Although not specifically recommended by the manufacturer, the recording of the thermodilution curve is the only rational means of documenting the accuracy of individual determinations of cardiac output, and they are recorded for every procedure.

Results

The results of the in vitro model experiment consisted of an average variance from the mean of 6.29 per cent for 30 determinations at calibrated outputs of 5.42 L/min; 6.49 L/min; and 7.50 L/min. The average deviation of the mean measured flow rate from the calibrated flow rate was −2.4 per cent. Evidence of poor mixing of the injectate with the bath fluid at lower flow rates was manifested by curves showing a considerable fluctuation of temperature distorting the curves and a high order of deviation of the measured flow from the calibrated flow.

In the clinical setting, an analytical review of the experience with the computer revealed the following data. In 1973, the first year the computer was used at this institution, a total of 24 output procedures were performed on 22 patients. The average variance from the mean of these procedures was 35.5 per cent, and ranged from 0.5 to 114 per cent. In 1974, a total of 24 serial determination procedures were completed on 15 patients. The mean variance for these procedures was 24.9 per cent, and ranged from 7 to 57 per cent. This study was begun fall of 1974, and most of the modifications presented here were incorporated by spring of 1975. In a total of 35 procedures performed on 18 patients that year, the average variance from the mean was 16.9 per cent; however, an equipment failure prevented curve tracing for five of these determinations and the average variance from the mean in that group was 33.8 per cent. Excluding those procedures, the average variance was 12 per cent. A total of 33 out of 151 individual measurements were discarded on the basis of curve analysis, for a rejection rate of 21.8 per cent. In 1976, a total of ten procedures have been performed on six patients, with an average variance from the mean of 12 per cent. A total of seven rejections from 44 measurements equals a rejection rate of 16 per cent. In 1975, the most reproducible set of serial determinations varied by only 0.05 per cent on five sequential measurements. The least reproducible series has a 27 per cent range around the mean (excluding those in which the curves could not be obtained). In 1976, variance from the mean has ranged from 4 to 28 per cent.

Discussion

In approaching this problem, our main objective has been to improve the reproducibility of serial determinations of cardiac output using a commercially available computer. The problem of the absolute accuracy of value obtained was considered to be less important, as the greatest value of measuring cardiac output in the intensive care unit was judged to be in correlating the changes of cardiac output during an acute illness with other factors to aid in assessing the course of illness. However, this problem has been approached by other investigators, and has been found by them to be an accurate method of estimation of cardiac output. The in vitro determinations performed here also showed a high order of accuracy. The factors which affect the

reproducibility of serial determinations most in our use of the procedure have been thermistor placement and baseline fluctuations. The best means of recognizing when these factors have resulted in an incorrect estimation of cardiac output is by analysis of the thermodilution curve. Using these methods, we have been able to approach, on the average, the accuracy claimed by the manufacturer. Our results continue to be less reproducible than those of other investigators.[9] Part of the reason for the difference is felt to lie in the arbitrary computation times designed into this computer and the manually set baseline, which must be readjusted immediately prior to each procedure. As pointed out by Forrester *et al.*,[7] fixed computation time computers are unable to provide the reproducibility of computers which terminate computation automatically based on either the slope of the curve or on a percentage of the peak deflection of the curve. More recent models of commercial computers from various manufacturers incorporate automatic baseline regulation and automatic computation time features.

Summary

The factors affecting reproducibility of serial determinations of cardiac output by the method of thermodilution using a commercially available computer were studied. An improvement in reproducibility of this procedure was effected by analysis of thermodilution curves and improving certain factors, such as thermistor placement, indicator delivery, minimizing baseline fluctuations, and optimizing computation time.

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Trauma

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Asthma and Aerosol Steroids

Treatment of Asthma with Triamcinolone Acetonide

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CORTICOSTEROIDS are of doubtless value in the treatment of asthma, but their prolonged use may cause undesirable and potentially dangerous side effects. A number of attempts have been made to administer steroids by aerosol, in an effort to produce a therapeutic effect without systemic absorption. Controlled studies of hydrocortisone,[1] dexamethasone phosphate,[2-6] and hydrocortisone acetate[7, 8] aerosols have indicated varying degrees of therapeutic benefit, but this might have resulted from systemic absorption of the drug. Conflicting results have been reported on the effects of inhalation of prednisolone,[7, 9] and a double-blind study of hydrocortisone hemisuccinate[10] proved it to be of no benefit.

Recently, two new preparations, an aerosol of beclomethasone dipropionate[11-16] and an aerosol of triamcinolone acetonide,[17, 18] have been developed for the treatment of asthma.

Triamcinolone acetonide is a nonpolar, water insoluble corticosteroid. It has been prepared in an aerosol for delivery to the respiratory tract through an adaptor designed to minimize deposition in the oral cavity. One puff of aerosol is expected to deliver 100 μg of triamcinolone acetonide to the airways.[17] The present study was designed to evaluate the safety and efficacy of triamcinolone acetonide aerosol in ambulatory adult patients with chronic asthma.

Method

Patients selected for this study included those who were steroid dependent as well as those who were not dependent on oral steroid therapy. The steroid independent patients had disease requiring a continuous use of oral or aerosol bronchodilators not optimally controlled by a non-steroid regimen. They had never been on steroids, or had received such therapy intermittently but not within four weeks of entering the trial. The steroid dependent group had disease requiring continuous use of oral steroids for a period of at least six months. The patients selected were well known to the investigator; one or more attempts to eliminate or reduce steroid therapy had been made in the past. For both groups, the asthma was relatively stable, so that a proper evaluation of the new therapy could be made.

An evaluation of safety and efficacy of triamcinolone acetonide aerosol in ambulatory adult patients with chronic asthma is presented.

The daily dose of oral steroids for those patients classified as steroid dependent did not exceed 20 mg of prednisone or the equivalent, or 40 mg if taken as alternate-day therapy. At the time of selection, the dose of oral steroids was not less than 5 mg of prednisone taken on a daily basis, or 10 mg on alternate days.

For all patients, reversibility of disease was established by the demonstration of a 15 per cent or greater improvement of forced expiratory volume in one second (FEV_1) at 15 or 30 minutes after a standard dose of isoproterenol aerosol. All bronchodilators were withheld (six hours for short-acting, and 12 hours for long-acting medications) on the day pulmonary function testing was done. For those patients classified as steroid independent, FEV_1 between 30 and 80 per cent of predicted value was demonstrated for inclusion.

Pregnant women as well as patients with active pulmonary tuberculosis, or patients who had a history of active, though quiescent, pulmonary tuberculosis, were excluded. All candidates who received cromolyn sodium commenced therapy at least eight weeks prior to entering the trial, and remained on cromolyn throughout the trial.

Following a one-week baseline period, acceptable patients were enrolled in the treatment phase of the trial, and received triamcinolone acetonide for a continuous period of six months. For patients dependent

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Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

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on oral steroid therapy, the dosage of oral steroids was gradually reduced while continuing therapy with triamcinolone acetonide. Oral steroids were reduced at a rate that did not exceed 3 mg/day/week of prednisone or its equivalent if taken on a daily basis, or 6 mg/day/week if taken on an alternate day basis. Clinical progress determined the rate and amount of reduction of oral steroid medication. Patients were seen every two weeks during the first 12 weeks of the trial and every two months thereafter.

For all patients, the initial dosage of triamcinolone acetonide was 800 mcg/day in four divided doses, *i.e.,* two puffs four times a day. Each actuation of the aerosol valve released approximately 200 mcg of triamcinolone acetonide, of which approximately 100 mcg was delivered to the patient. No dosage changes were made during the first 12 weeks of therapy. The dose occasionally was increased after the first 12 weeks of therapy, to a maximum daily dose of 1600 mcg.

Patients were interviewed and examined for inclusion into the trial during the one-week baseline period. History and pertinent findings of the physical examination, including examination of the lungs, throat and oral cavity, were recorded. A number of laboratory studies, including the 8:00 AM plasma cortisol level, were measured during the baseline period. When the baseline and subsequent plasma cortisols were drawn, no oral steroids were taken by the patient until a blood specimen was collected. If the patient was receiving alternate-day oral steroid therapy, the 8:00 AM plasma cortisol was measured on the day of oral steroid administration.

Pulmonary function tests, including forced vital capacity (FVC), forced expiratory volume in one second, and forced expiratory flow (FEF), during the middle half of the FVC were performed every two weeks during the first 12 weeks of therapy with triamcinolone acetonide, and every two months thereafter. All measured 25 to 75 per cent air flow. As in the baseline period, all bronchodilators were withheld on the day pulmonary function testing was done.

Eight o'clock plasma cortisol levels were measured after four weeks, eight weeks, and every two months thereafter. Other laboratory tests were done at two weeks and six months.

Results

At six months, all of the steroid dependents were on less prednisone than at the beginning of the study, and 15 of 21 (71%) were completely off steroids. The average baseline prednisone dose was 13.9 mg/day, and the average dose at six months was 1.5 mg/day *(Figure 1).*

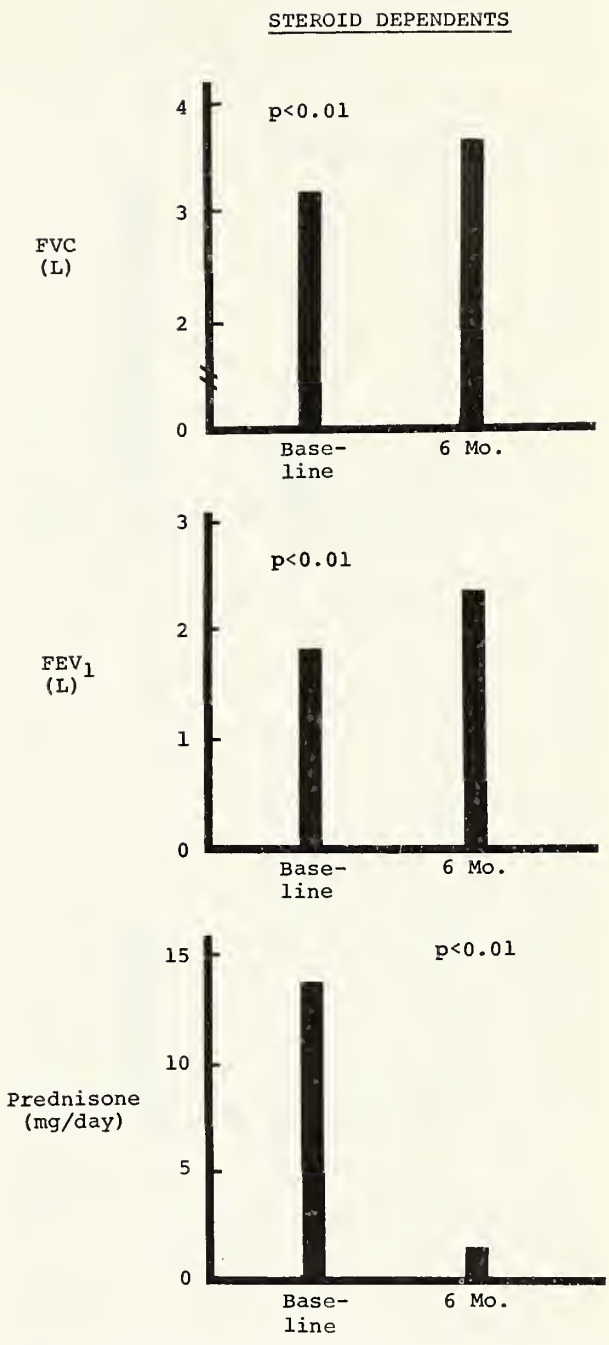


Figure 1. Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV_1) improved after 6 months of treatment with triamcinolone acetonide compared to baseline during the time prednisone dosage was decreased.

At six months, 18 of 21 of the steroid dependents had equalled or improved the 25 to 75 per cent air flow results in FVC, FEV_1, and FEF tests. This occurred simultaneously as the prednisone dosage was decreased or discontinued *(Figure 1).*

At six months, 5 of 6 steroid independent patients

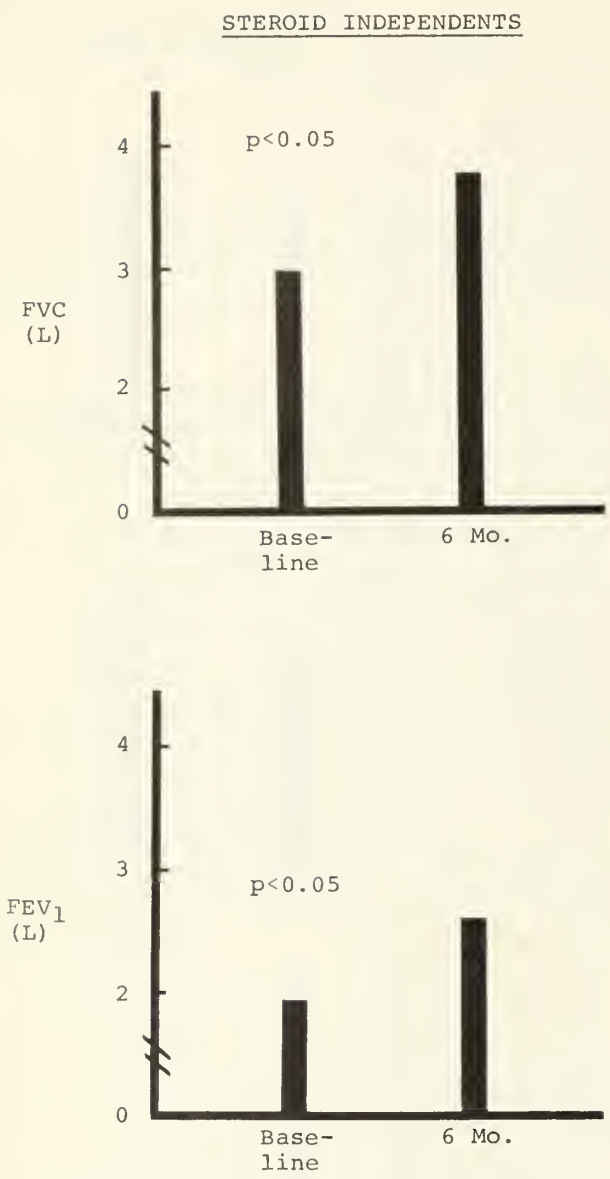


Figure 2. Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV_1) improved after 6 months of treatment with triamcinolone acetonide.

had equal or better pulmonary function tests *(Figure 2)*.

The mean baseline 8:00 AM plasma cortisol level in the steroid dependents was 10.8 mg/100 ml, and in the steroid independent patient it was 12.3 mg/100 ml. At six months, the steroid dependent 8:00 AM plasma cortisol mean level was 12.3 mg/100 ml, and in the steroid independent patients it was 12.4 mg/100 ml. When the baseline and values at six months were statistically compared for both groups, there was no significant change. In addition, steroid withdrawal symptoms were not significant. Other laboratory tests, including CBC, blood chemistry, chest x-ray and EKG at six months, were not significantly changed compared to baseline values.

Unmasking of allergic rhinitis, arthralgia, arthritis and rash, presumably because of steroid withdrawal, occurred in a number of patients, but was controlled by non-steroid medication.

Discussion

From the positive results of this study, there is little doubt that most asthmatic patients on low-dose steroid therapy can be effectively transferred from oral therapy with steroids to aerosol therapy. The dose of aerosol should be adjusted accordingly, as is done with oral steroids. Indications for increased dosage might include conditions of stress or viral infection, or the advent of increasing symptomatology therapy. Patients in whom systemic therapy with steroids is replaced by aerosol therapy should be cautioned about the risk of adrenal insufficiency, and supplemental steroid therapy during surgery or severe stress should be strongly considered. The importance of gradual tapering of the steroid dosage while starting aerosol therapy, to avoid adrenal insufficiency and possible relapse of asthma, should be emphasized. Although symptoms or laboratory data of adrenal suppression were not found in this study, probably because of the very slow reduction of oral steroid dosage, adrenal insufficiency has been reported and appropriate precautions should be taken.

A high incidence of oropharyngeal candidiasis has been reported with inhaled beclomethasone,[11] but it was not found in this study, possibly because a different aerosol valve, which deposited less aerosol in the oropharyngeal cavity, was used.

The effect of steroid aerosol on high-dose steroid dependent asthmatics, as well as in other types of obstructive pulmonary disease and parenchymal diseases known to be responsive to steroid therapy, is unknown and should be evaluated.

Summary

The results of this study have revealed that inhalation of small doses of triamcinolone acetonide aerosol:

1. provides effective therapy for asthma;
2. allows reduction (and usually discontinuation) of oral corticosteroids in select patients;
3. does not appear to produce the side effects induced by corticosteroids when administered by other routes;
4. does not cause significant symptoms of steroid withdrawal or a significant change in 8:00 AM plasma cortisol levels.

(Continued on page 516)

Surgeon's Armamentarium

Flexible Fiberoptics

BEN H. BUCK, JR., M.D., DILLIS L. HART, M.D., *and* EUGENIO S. CONCEPCION, M.D., *Wichita*

INTRODUCTION of the fiberoptic bronchoscope to the American medical community by Ideka, in 1970, and the array of fiberoptic instruments now available in general, has created a new horizon of diagnostic aids to the surgeon investigating the tracheobronchial tree and gastrointestinal tract. Complete dependence upon the radiologist for preoperative identification of surgical lesions is a part of history, when the lesions can be directly photographed and biopsied. Many thousands of fiberoptic endoscopies have been performed in the past few years, with morbidity and mortality rates of a fraction of one per cent. In our series of 956 cases, the figure to date is zero.

Method

Cases are now done by our group, with rare exception, using Atropine, Demerol, and Sodium Luminal one hour preoperatively; 4% Lidocaine locally to the pharynx and tracheobronchial tree—omitting the latter in gastrointestinal tract investigations; Valium in the range of 5 mgm intravenously has almost always rendered a cooperative non-apprehensive patient; oxygen through the bronchoscope or into the upper airway seems advisable, as Lampton[1] and others have reported in controlled studies, transient falls of arterial O_2 tensions of over 20 per cent, particularly during suctioning efforts. This may be minimized by reduced vacuum (100 mm Hg) and intermittent brief suction periods.

Monitoring the pulse by a nurse or a cardioscope should warn one of impending cardiac disaster. Mechanisms of hypoxemia, noted with the scope at the carinal level, is probably reflex in nature, *i.e.,* subepithelial receptors to stimuli are concentrated here resulting in broncho-constriction and alterations in ventilation-perfusion relationships. Patients with arterial PO_2 gas studies of less than 70 mm Hg, and arterial PCO_2 of greater than 50 mm Hg should give careful consideration to risk-benefit factors before initiating fiberoptic bronchoscopy.[2]

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

Bronchoscopy

Indications for fiberoptic bronchoscopy are: rigid scope in chest x-ray lesions, hemoptysis, persisting cough, and non-cardiac pain. Tracheobronchial foreign body suspects should be exposed to the rigid scope and the fiberoptic bronchoscope passed through it if necessary to inspect the lobular segments. We have seen three cases of carcinoma of the lung with a negative chest x-ray, no hemoptysis, minimal weight loss, and only a cough to justify bronchoscopy. Fiberoptic bronchoscopy will increase the numbers of early mucosal lesions seen in the segments before obstruction and atelectasis develop. Not always appreciated by our nonsurgical colleagues is the necessity for bronchoscopic investigation in a case with one or more of the following findings: laryngeal nerve paralysis of unknown cause, paralysis of diaphragm, abnormal sputum cytology, and diffuse parenchymal disease. As Jackson[3] so aptly stated in 1915, "In case of doubt as to whether bronchoscopy should be done or not, bronchoscopy should always be done." Contraindications are somewhat in proportion to the endoscopist's temerity, however, severe heart disease, aortic aneurysm, extreme debility, and intercurrent acute disease are relative contraindications to rigid bronchoscopy. Sachner[4] feels that in many such instances the fiberoptic bronchoscope can be used safely by the nasal route. Unexplored as yet by us but overdue, is the direct visualization of interpleural lesions via size 32 or 36 catheter. The indications for this are the same as for thoracentesis, the need to biopsy the pleura, or a peripheral lung lesion. A flexible coagulation tip, as a fiberoptic bronchoscopic instrument refinement, may revive thoracoscopy and limit the thoracotomy as a diagnostic method.[5]

Esophagogastroduodenoscopy

Indications for esophagogastroscopy are epigastric pain, upper gastrointestinal tract bleeding, heartburn, anemia and weight loss, nausea, vomiting, and dysphagia where the history and investigative findings tend to implicate the upper GI tract anatomy. In one half

TABLE I
BRONCHOSCOPY TABLE: CASE SERIES

Complaints	%
Shortness of breath	34
Hemoptysis	5
Cough	11
Pain (non-cardiac)	21
Aspiration or atelectasis	14
Lung infiltrates/x-ray	15

of our cases, in the presence of negative upper GI x-rays, significant pathology existed in the form of superficial erosions, ulcerations, bleeding sites and polyps, tending to substantiate the findings of Gregg[6] and others. An interesting report in the *British Medical Journal* of June 1973, stated that 26 per cent of patients with a proven duodenal ulcer were found to be bleeding from another site, and 15 per cent had more than one lesion, perhaps, explaining why some of our efforts to control massive upper GI tract bleeding in the past, having to depend on barium studies, were frustrating and often humbling.

The patient with massive bleeding and a stomach full of clots should have been lavaged out previous to attempting endoscopy. A large bore Ewald tube as recommended by Gregg,[6] or a large N/B tube irrigating with ice water to clear, makes the effort possible, since the small lumen of the instrument cannot cope with a gelantinous mass. On occasion, the bleeding site may open up again during the instrumentation, making pinpoint diagnosis possible.

A dictum that has been and is still around, is: "If the gastric ulcer does not heal in six weeks, operate the case." In light of the available gastroscopy, such premise can be relegated to the historical library.

The gauntlet of lesions found in every series in varying numbers is as follows:

Esophagitis
Esophageal stricture
Esophageal carcinomas
Esophageal varix
Esophageal acute erosions
Gastric ulcers (benign)
Gastric ulcers (malignant)
Gastritis (acute, atrophic, hypertrophic)
Duodenal ulcers (benign and malignant)
Duodenitis (caused by L-Dopa)
Duodenal bulb strictures
Granulomas
Bleeding sites
Normal

TABLE II
GASTROSCOPE TABLE: CASE SERIES

	%
I. Positive gastroscope findings with negative GI series	58
II. Positive pathology diagnosis with negative GI series	5

Complaints	*Positive Gastroscopy, Negative X-Ray Series*
Abdominal pain	44
Chest pain	12
Shortness of breath	6

The possibility of instrument perforations to the GI tract exists with the flexible scope, occurring only once to our knowledge among those doing endoscopies in this city, and must be dealt with promptly, surgically by thoracotomy or laparotomy as indicated.

Conclusion

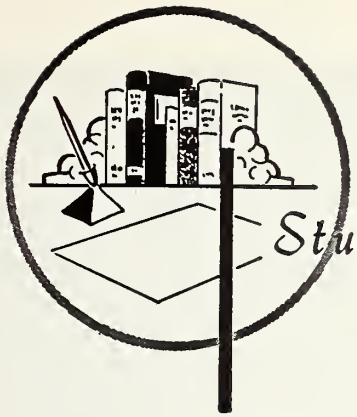
Flexible endoscopic instruments, commercially available, have revolutionized diagnostic and therapeutic techniques. Directional control of its tip has made the inspection of anatomical nooks and crannies, heretofore only surmised, an every-day practical occurrence in many of the medical institutions of the world.

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Leprosy in Kansas

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L. H. BAKER, M.D. *and* F. F. HOLMES, M.D.,
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With an increasing influx of people into the United States and Kansas from parts of the world where leprosy is endemic, an increased diagnostic alertness to clinical leprosy is desirable. Two recently diagnosed patients are reported with review of clinical forms and effects of this infectious disease.

TWO CASES of lepromatous leprosy were admitted and diagnosed at the University of Kansas Medical Center within a seven-month period. Because of a low index of suspicion for leprosy in this non-endemic area, diagnosis was one of exclusion as no other cause for the presenting symptoms could be determined. With the recent influx of refugees from Vietnam to the United States, it is important to become more familiar with the presenting signs and symptoms of this disease.

Case One

An 83-year-old white male presented at the University of Kansas Medical Center with the chief complaint of stinging and coldness of the hands and feet. The patient described his hands and feet as being cold and numb, requiring the use of an electric pad for warmth at night. He also complained of a loss of sensation in the tips of his fingers and toes and, while cutting his toenails, he nicked his right great toe without realizing it. In addition, about four months prior to admission, the patient complained of itching followed by a rash scattered over his body, mainly on the arms, shoulders, and trunk. The patient insisted that the rash itself did not itch and he was unable to relate it to any particular irritant. The rash had not cleared despite antihistamine and steroid therapy.

Social history was significant in that at age 32 the patient went to India as a missionary, where he remained for 35 years. At age 68 he returned to the United States, 15 years prior to onset of his present symptoms.

Physical examination revealed a stooped, elderly man with relatively slow responses to questions and a poor memory. Red macules and nodules varying in size 1-4 cm in diameter were scattered over the extensor aspects of both upper extremities and over his back, chest, and right cheek. These skin lesions were generally very discrete and well defined. Some of the lesions were anesthetic to pin-prick, and some had a central area of hypo-pigmentation. In addition, there were multiple patchy areas of anesthesia to pin-prick over the back, thighs, arms, and face. Anesthesia was present over the dorsum of the fingers and hands, the left being more severely affected than the right. The lower extremities showed loss of vibratory sense. Deep tendon reflexes were intact, and no pathologic reflexes were present. The hands and feet were puffy, and the overlying skin appeared blueish but was not cold to touch; all peripheral pulses were present.

Dr. Liu is now serving his internship at Texas Medical Branch Hospital, Galveston, TX 77550.

Presented at the annual meeting of the Kansas Chapter, American College of Physicians, Wichita, February 27, 1976.

Skin biopsy was performed five days after admission and is seen in *Figure 1:* the epidermis is of normal thickness with slight hyperkeratosis. In *Figure 2,* the dermis shows a cellular infiltrate forming clusters which on high power magnification is seen to consist of lymphocytes and histiocytes containing foamy cytoplasm. Multi-nucleated giant cells are not seen. The accelerated Fite's method for acid fast bacilli revealed many acid fast rods found individually and in small clusters, both intra and extra-cellularly

No therapy was instituted at KUMC, and the patient was referred to the National Leprosarium in Carville, where his disease responded to dapsone therapy and was judged inactive six years later. Seven years after the diagnosis of lepromatous leprosy was made, he died with carcinoma of the colon at age 91.

Case Two

Seven months after the discharge from the hospital, a 45-year-old Mexican-American male presented at KUMC with the chief complaint of leg swelling and sores on his feet. He reported that approximately one week prior to admission he began to have chills, fever, and malaise which he thought was the flu. Two days prior to admission, he noted shortness of breath on exertion and swelling of his legs. The legs were not painful but when their swelling and redness failed to respond to hot soaks and epsom salts, he decided to seek medical advice. The patient had been treated for a rash over his arms and thorax with apparent success by a local physician one year prior to admission. Social history was significant as he was born in Mexico, then lived in Austin, Texas, when aged 5 to 42. Review of systems suggested good overall health, except for nasal congestion with purulent secretions and nose bleeds during the last month.

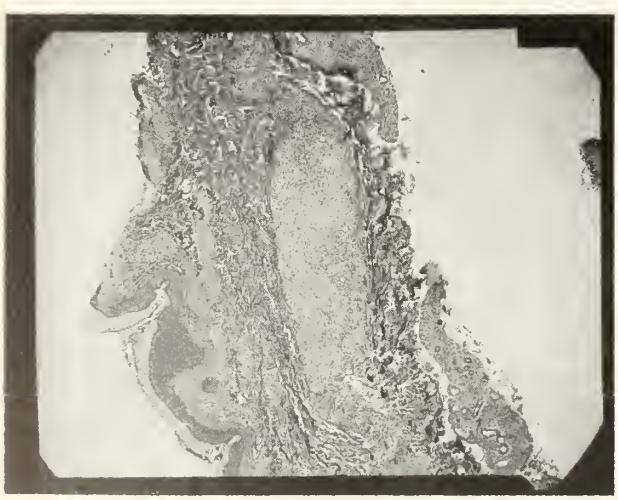


Figure 1. Skin biopsy showing normal epidermis with slight hyperkeratosis. In the dermis, a cellular infiltrate forming clusters.

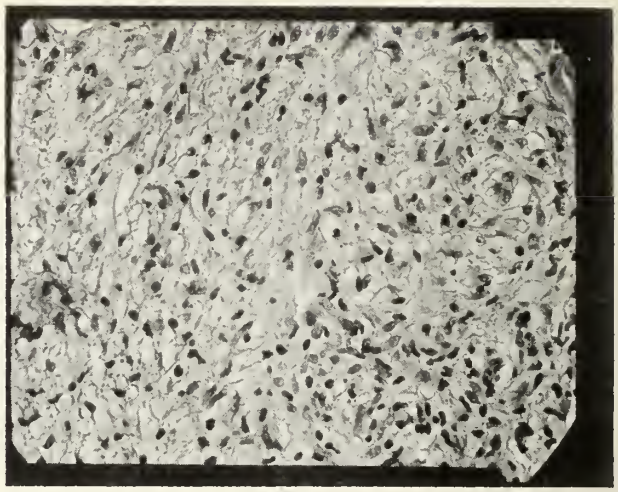


Figure 2. Higher magnification of cellular infiltrate showing lymphocytes and histiocytes containing foamy cytoplasm.

Although physical examination revealed that the patient was not acutely ill, his face appeared puffy. Lateral loss of both eyebrows was noted. Dried blood was present in both nares with large amounts of tenacious yellow secretion; the nasal septum was not deviated and was without perforations. Pitting edema was present on both lower extremities and the skin appeared hyper-pigmented. There were erythematous, macular patches on each wrist and the extensor surfaces of the lower arms. An open burn was noted below his right knee. There was some nodularity of the left ulnar nerve. The neurologic examination showed no loss of motor function, but there was decreased sensation to pin-prick and soft touch distal to the knees. There was moderate loss of sensation over the extensor surfaces of both forearms. A skin biopsy of the left calf demonstrated a mononuclear inflammatory cell infiltrate surrounding blood vessels and nerves. Histiocytes with abundant foamy cytoplasm predominated and Fite's stain confirmed the presence of acid fast bacilli. The remainder of the physical examination was unremarkable.

Four days after admission, the patient expelled a 5 to 10 cc mass of bloody tissue from his nose, revealing a perforated nasal septum. Acid fast stain on this material was reported initially as negative. At a later date, Fite's stain was done on the nasal material which revealed numerous acid fast bacilli compatible with *M. leprae.*

The patient was referred to the National Leprosarium in Carville, where he was treated sporadically. Though his condition improved with dapsone therapy,

it never became inactive. He died of a myocardial infarction five years after the diagnosis of lepromatous leprosy was made.

Discussion

The organism now known as *Mycobacterium leprae* was first described in 1874, by Hansen, as the organism causing leprosy. This organism holds a unique position in history, as it was the first pathogenic organism to be associated with a disease, though to date all attempts to culture this organism in vitro have failed. In 1960, it was first grown in mouse foot pads, and this has been found to be a useful test of organism viability.[1] In 1972, Dr. Kirchheimer, at the Public Health Hospital in Carville, successfully infected the nine-banded armadillo with the *Mycobacterium leprae* organism. The armadillo is, therefore, the first animal other than man to be found susceptible to generalized infection with this organism.

Neural involvement with anesthesia is the cardinal manifestation of leprosy. The most commonly involved nerves include great auricular, ulnar, and common peroneal nerves. The sural nerve at the ankle proves to be useful site for biopsy when making the diagnosis of Hansen's disease. Autonomic involvement is manifest by anhidrosis with rough, dry skin.

Leprosy is classified into four general types: indeterminate, lepromatous, dimorphous, and tuberculoid forms. The type of leprosy acquired is probably directly related to the degree of susceptibility, resistance, or immunity possessed by the individual. The indeterminate form, generally thought to be the earliest manifestation of this disease, usually presents as a single, flat, smooth, and hypo-pigmented macule. This macule is often erythematous and may have well or ill defined borders.[2] This area usually has normal sensation and there is no neural involvement. This stage can easily be overlooked, as it may heal spontaneously or progress on to another main type.

The tuberculoid form of leprosy is manifest by involvement of nerves and skin. A typical lesion is usually an asymmetrical macule with sharply demarcated borders and hypo-pigmentation, or it may be a raised plaque with a healing anesthetic center. A single lesion may enlarge to involve the whole extremity of much of the trunk. This form of leprosy usually shows early neural involvement with muscle atrophy and contractures. Nerve enlargement is the hallmark of this form. Biopsy of a lesion will show few or no bacilli, and the lepromin test is always positive. This form of leprosy is thought to represent good host immunity.[2]

The lepromatous form of leprosy shows more widespread involvement including skin, nerves, eyes, and internal organs.[3] The earliest lesions are macules which are small, multiple, ill defined, and hypo- or hyperpigmented. These are symmetrically distributed and are usually without sensory changes. As the disease progresses, plaques and nodules appear and may coalesce. The nodules are best seen about the rim of the ear and on the chin, elbows, buttocks, knees, and dorsum of the hands and feet. Biopsy of lesions will show numerous bacilli and histology will reveal granulomas containing foamy histiocytes.

As in our patient presented in Case Two, the face may have a puffy, myxedematous appearance secondary to diffuse skin infiltrate. Erosions of the nasal mucosa may cause epistaxis, and destruction of nasal supportive tissue may result in perforation, with saddle nose deformity. Eye involvement creates pain, photophobia, and loss of vision. Visceral involvement often includes testicular infiltration, lymph node spread, and liver involvement, resulting in hepatomegaly. Infiltration of hairy areas of the body is responsible for alopecia, particularly in the lateral third of the eyebrows as seen in the second case. In advanced lepromatous leprosy, brawny edema of the extremities may be seen. Destruction of the digits is the result of a combination of factors, including bacillary invasion of the bones, neurovascular disease, and repeated painless trauma to the extremities. Patients with lepromatous leprosy are always lepromin test negative, and this is thought to represent poor host resistance to the *M. leprae* organism.

The borderline, or dimorphous form of leprosy, like tuberculoid leprosy, affects nerves and skin, but it exhibits clinical and histologic features of both lepromatous and tuberculoid leprosy. The clinical characteristics, such as the number and size of lesions, sensory changes and appearance, are intermediate or may favor either the lepromatous or tuberculoid poles of this disease. The skin lesions are usually plaques or annular lesions, and less frequently are macules or nodules. These are multiple and have a wide-spread asymmetric distribution. The plaques are thick, succulent, and are often without significant sensory loss. These plaques have ill defined margins, a smooth surface, and a violaceous or brownish hue. Biopsy of skin lesions usually yields many bacilli, but scraping of the nasal mucosa yields none.[2] The ear lobes in dimorphous leprosy are usually involved unilaterally rather than bilaterally, as seen in lepromatous leprosy. Non-pitting edema of the hands and feet is more frequently seen in the latter than in the other forms of leprosy. The lepromin skin test, while usually negative, can be weakly positive.

Though it is not known precisely how many persons in the world have leprosy, most estimates vary between

12 and 20 million cases. Africa leads with the most number of cases, closely followed by India and southeast Asia. It is estimated that there are 2,500 cases of leprosy in the United States.[4] Areas of high incidence include California, Texas, Louisiana, New York, and Hawaii. These areas include many people who have contracted their disease outside the United States; the areas where the disease is truly indigenous are southeast Texas, Louisiana, and Hawaii.[5] *Table I* shows the distribution of reported cases of leprosy in Kansas for the period 1922-1975. Of the 13 reported cases, seven were male and six female. Five patients were born in the United States. Geographic distribution within the state was random, with Shawnee and Wyandotte counties reporting three and four cases respectively.

The lepromatous form is thought to be the most infectious, and a tuberculoid index case is considered unusual. It is felt that the risk of a person contracting leprosy from a family member having the lepromatous form is approximately four times greater than if that member had the tuberculoid form, and it in turn is eight times greater than having no index case in the family at all. Transmission of the disease is a matter of close personal association over a long period of time, and the mode of entry involves either the skin, mucous membranes, or both. The incubation period of leprosy from infection to onset of symptoms is generally considered to be approximately 3.5 years.[6] Initial skin lesions tend to be on the extensor surfaces of the arms, feet, and shins. Therefore, a break in skin continuity seems to present an ideal site of entry for the *M. leprae* organism. Nasal lesions are also commonly the initial manifestation giving evidence for air-borne transmission, though it is noted that attendants at leprosaria, where only very basic isolation techniques are used, have a very low risk of infection. The possibility of an arthropod vector is difficult to show, due to the long incubation period of this organism. Incidence of leprosy is high in the 10-14 year age group, and those exposed at an age under 5 years are found to be most likely to contract the disease.[6] In some endemic areas, it is found that the disease occurs in 60 per cent of progeny of infected patients, and the incidence of spread to a spouse is approximately 5 per cent.

The importance of the large Vietnamese refugee population to the recent incidence of this disease has been stressed.[7] A program was begun in July 1975, to examine Vietnamese refugees 15 years and older for evidence of Hansen's disease. There were 39 definite cases reported among 27,057 adults, a prevalence rate of 1.4 : 1,000. Only four of these cases were of the lepromatous form. Of the others, five were borderline, three indeterminate, and 27 tuberculoid. All of these cases now are either under treatment or have completed adequate courses of therapy. Several cases have been reported in refugees from Vietnam entering United States before July 1975.

Summary

As seen with these patients who presented at KUMC

TABLE I

KANSAS LEPROSY CASES REPORTED, 1922-1975—
KANSAS STATE DEPARTMENT OF HEALTH AND ENVIRONMENT

City	AGE	SEX	*Patient* ORIGIN	*Birthplace*	*Admitted*
Pittsburg	83	M	White	Illinois	7/26/64
Leavenworth	?	M	White	Missouri	3/19/22
Emporia	?	F	Mexican	Mexico	2/24/29
Manhattan	35	M	?	China	8/1/65
Hope	36	F	White	U. S.	4/20/68
Topeka	24	M	Oriental	Cal. (Jap.)	4/12/44
Topeka	47	F	Mexican	Mexico	5/18/47
Topeka	44	M	White	U. S.	5/24/68
Selkirk	?	M	?	Argentine, S. A.	7/17/27
Kansas City	26	F	White	Greece	1/28/64
Kansas City	45	M	Mexican	Mexico	5/6/65
Kansas City	16	F	White	Greece	7/52
Kansas City	87	F	White	Cuba	4/73

with fairly typical manifestations of lepromatous leprosy, a complete history and physical examination, with particular attention to the patient's past social history, was essential to suspecting the diagnosis. Since diagnosis was established in both patients by skin biopsy, it is important for the examining physician to alert the pathologist, so that special stains may be used to confirm the diagnosis of leprosy.

Acknowledgements

Frank Mantz, M.D. and Fritz Lin, M.D. of the department of surgical pathology, KUMC, aided in preparing and interpreting photomicrographs. Donald Wilcox, M.D., M.P.H., epidemiologist, Kansas State Department of Health and Environment; Robert R. Jacobson, M.D., chief of medicine, U. S. Public Health Hospital, Carville, Louisiana; and Suzanne McPherson provided editorial assistance and constructive criticism in preparing this paper.

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Correction of the Correction

We had not intended this to be a regular feature but it appears that we are not through yet. Followers of this exciting series will recall that in W. David Francisco's paper on orthopedic surgery in Kansas, appearing in the 75th Anniversary Issue, we edited C. L. Francisco of Kansas City out of existence. In our effort to correct that gaffe, we published a correction in the September issue which reinstated him but identified him as the brother of W. D.

Comes now Dr. M. A. Claasen, of Newton, to advise us that *this* is not correct, which information we accept with the gratitude one feels on being advised at a large party that one's zipper is un. We are appreciative of the advice but embarrassed at the necessity. There was a cryptic note to Dr. Claasen's letter, however, in that he did not say *who* C. L. really is. Whether he doesn't know for sure or was testing us is not clear, but at this point we also received a note from W. D. who shows us more forebearance than we deserve. He notes that he and C. L. are, in fact, cousins and that many people make the mistake of thinking they are brothers. So, once again, we offer apologies—and again we note that we still haven't heard from the principal in the case, C. L., who is probably afraid to speak up for fear of what we'll do to him next.

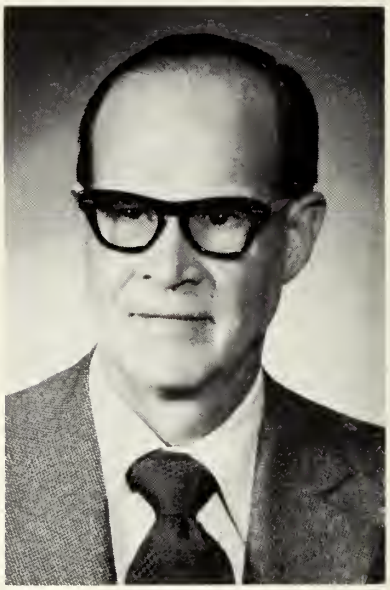
As the slogan of the day goes, remember you read it here first. Just don't believe it.—*D.E.G.*

DIRECTOR OF MEDICAL SERVICES

The Medical Services Section of the Department of Social Rehabilitation Services, which administers the Kansas Medicaid Program, is in need of a full-time Director of Medical Services. A Kansas physician with experience in general medical care and some knowledge of Kansas Medicaid Program is preferred. Duties include administration, policy formulation, and communication with all providers of medical care. The position will be vacant January 1977, upon the retirement of P. L. Beiderwell, M.D., who has held this position since April 1971.

The duties include utilization review and authorization of special services. A full-time physician or two part-time physicians are needed to fill this projected vacancy. For additional information, contact the Medical Services Section, Department of SRS, State Office Building, Topeka, KS 66612.

The President's Message



Greetings to each of you this lovely fall season!

Perhaps the greatest activity of your Society at this time of year is the conducting of Council District meetings in each of the nineteen districts of the state. These meetings provide opportunity for each member, though not elected to any office, to come and ask questions and hear what the Society is trying to accomplish. It is a good opportunity for fellowship and function. I urge you to attend and participate.

Committee and commission work is in progress. Your legislative and professional liability groups are in the planning and preparation stage. If you have ideas, now is the time for input. The function of your Society is essentially to help Kansas physicians to provide better health care to Kansans. Your political, legislative, and professional participation in the next few months will determine largely the climate in which we will be working in the future. The physician who excuses himself by saying, "I'm not a politician," and thus does not contribute to the organizational work of his profession, is doing himself, his profession, and his patients a disservice.

Let's have a full house at the Fall House of Delegates meeting in Lawrence, November 7.

Fraternally,

Emerson Goder, M.D.

President



Editorial COMMENT

The Mutation Situation

One might think that splitting the atom and going to the moon would have provided the human race with quite enough exercise in the Department of Ethics and Morals. The restless human mind, however, as it goes around opening doors in order to get a better view, keeps letting in other perplexing problems. Thus, the nuclear physicists and space scientists are joined by the genetic engineers. The genetic explosion may not be as loud as the atomic bomb or the rocket blast-off, but the mushrooming cloud of genetic activity has already produced a fall-out of fear and concern. Tampering with our fundamentals always shakes mankind's sense of security as it threatens to turn all of us into something we don't recognize—or into nothing.

The overlaps and parallels of the secrets of the physical and biologic nuclei are tempting to contemplate, but our interest at the moment is in developing some perspective of the genetic effort. The science fiction writers often seem to anticipate the research scientists. Even though their fantasies are eventually surpassed by actuality, mankind, conditioned by these fantasies, may misinterpret the realities. Genetic engineering is a case in point, since the Sunday supplements and the feature writers are turning increasingly to this area of research for their reports. Writers take one of two tacks. They report the marvels that will be commonplace because of our genetic enlightenment, then add a passing note of caution regarding the risk of wild mutations, or they titillate us with reports of the "mad scientist" genre, then acknowledge in afterthought fashion that some good may come of it after all. The term, genetic engineering, does embody some reassurance, since it implies that we are in control and are manipulating the genetic material to our wishes (though experience should teach that those wishes are by no means uniform and one man's benefactor may be another's mad scientist).

But just as the unconscionable use of atomic power could be devastating, genetic manipulation does have potential for human detriment. At this point, genetic scientists have declared a moratorium on certain aspects of research which might lead to uncontrollable mutations, an expression of their concern and also their sense of responsibility—and a much worthier gesture coming voluntarily from those knowledgeable and actively involved rather than by some bureaucratic edict of political motivation.

It is with full respect for these individuals, however, that we suggest that this moratorium will exist only until some social motivation develops to ignore it, or our capabilities are adequate to control the threat. The first point is prompted by the recollection that the risks involved in splitting the atom, the (then) fantastic price tag on the necessary effort, and the time required to bring the project to fruition were overcome by a handful of people operating under the stimulus of war. The second point recognizes that, in the world of scientific endeavor, the probing intellect, blocked at any point, moves about in search of new channels and ultimately outflanks or surrounds and neutralizes the point of blockage. We can expect, therefore, that this laudable expression of scientific conscience will have some influence on the direction and rate of *some* research, but there can be no true cessation of all investigation which might have threatening implications. How do you stop a thought? At the same time, reassurance can be derived from the realization that as progress is made in development, so will it also be made in control. There will be inspiration and restraint and controversy and error, but the pressure of intellect will assure that the probing will continue.

The revolutionary aspect of man-made genetic engineering obscures the fact that "natural" genetic engineering has been going on forever in evolutionary impact. Every conception is an experiment in genetic engineering. Given the opportunities for mutation because the reagents are not always of the best quality, or the laboratory equipment may be defective or the instructions may be misprinted, it is a wonder the species norm is maintained as well as it is. Society has taken a surprisingly casual attitude toward its own development in its haphazard approach to its own propagation and existence. Plant and animal genetics are well ahead of

human genetics on a practical level because, while mankind has used them for study, its own continuum has been dictated by politics, economics, and emotions. But as it is taking more interest in determining its own content and quality (including its environment), the opportunity to control its genetic characteristics seems appropriate to the day. In spite of the risks, we can expect the social voice to demand the search for genetic improvements even as it cries alarm at the methods.

Examples of natural genetic engineering have been exposed as our knowledge of genetics has increased. For example, the physician knowing the frustration of trying to stop spontaneous abortions has been impressed that some unknown factor was thwarting the efforts. It has been established that some 15 per cent of pregnancies reaching clinical recognition will be spontaneously aborted, and it has been reliably determined that about 60 per cent of spontaneous abortions demonstrate, even by current methods of study, chromosomal abnormalities (and keep in mind that chromosomal defects are relatively gross by genetic standards). Thus, more than one in ten clinically recognized pregnancies have a significant abnormality (since, of course, not all chromosomal abnormalities are aborted), and if we include what must be a considerable number of abortions occurring prior to the stage of clinical recognition, we have a demonstration of natural intervention in the abnormal gene population—or, if you will, natural genetic engineering. It also exemplifies the conflicting struggles of the medical profession which divides its time between helping patients get and stay pregnant, and helping others prevent or eliminate pregnancies. And in passing, we may wonder where, if we overcome this genetic wastage, we will put everyone with the world population already burgeoning despite our blighted state.

Genetic revelations and therapeutic regimens have provided projects in indirect genetic engineering. Many of the recessive inborn errors of metabolism—phenylketonuria, for example—have been self-controlling since the victims have succumbed at an early age, thereby preventing a significant increase in the defective gene pool. Today, with the recognition of the pathogenesis and genetic chemistry of PKU, we can detect the affected individuals and treat them. The result is that an increasing number of affected individuals are growing to maturity and producing children who will be certain carriers of the PKU gene (actually the absence of the phenylalanine hydroxylase gene), and there will be a consequent increase in the carrier population with increasing risk of additional affected offsprings. It is more than axiomatic—it is trite—in the world of genetics to say that such conditions are rare but there are many more of them than we know at the moment. While such a comment need not impart a sense of impending doom, it does point the direction in which we are going "naturally" and perhaps puts efforts at "controlled" genetic engineering in a different light. This sort of negative genetic control stresses the fact that our capabilities of the moment are more toward the support and survival of the affected individual by application of other medical therapies, not the elimination of the underlying pathology (the defective gene) and, as we help the affected person, we are in the ironical position of increasing the defective gene pool. This is one reason efforts to correct the basic defect, whether they involve carving up chromosomes with a laser beam or substituting codons in the DNA circuit (not, incidentally, everyday activities in your friendly neighborhood laboratory), will continue, and be professionally and socially justified even as the spectre of runaway mutations looms.

Admittedly, these examples of "natural" genetic engineering may seem to have little equivalence with the concept of genetic alteration by the test tube manipulation of DNA. As we implied earlier, it is the difference between evolution and revolution, and our fears probably relate as much to the method as to the substance. It can be kept in mind, however, that the current reach of genetics exceeds the grasp. The reports emerging from the laboratory—and the fantasies they excite in all of us—suggest capabilities that are still considerably removed from actuality. When Watson and Crick identified the double helix of DNA (and if they hadn't, someone else would have), it became inevitable that some day, someone would produce genes—and they have. It is just as inevitable that the *in vitro* experiments will become the *in vivo* reality. The problem is not so much whether society needs to put restrictions on the geneticists in anticipation of their errors as to be prepared to handle the ethical considerations of their successes.

Already efforts to identify those at risk of racially designated genetic problems have met with charges of genocide. Already the conflict between the rights of individuals who are affected, or carriers of defective genes, and the rights of the society which may be adversely affected by such individuals—or have to provide care for them, has perplexed the genetic ethicists.

So we do not deny—in fact, we stress—the potential for harmful effect that is inherent in each advance of genetic research. We do suggest that the matter be divested of its sensationalism and emotionalism and that our energies, as we await the inevitable opening of other doors, be devoted to the development of the ethical perspective which will be necessary to meet the responsibilities of our new capabilities.—*D.E.G.*

Obituaries

JOHN F. BARR, M.D.

Dr. John F. Barr, of Ottawa, died August 18, 1976, at the age of 74. He was born March 18, 1902, in Graham, Missouri.

Dr. Barr was graduated from the Jefferson Medical College of Philadelphia in 1928. He practiced briefly in Girard, before establishing his medical practice in Ottawa, in 1930. He retired in 1969.

Survivors include his wife and two sons.

JULIUS W. BELL, M.D.

Dr. Julius William Bell, of Abilene, died September 24, 1976, at the age of 61. He was born December 24, 1914, in Sisterville, West Virginia.

Dr. Bell was graduated from Harvard Medical School in 1940. He obtained the Kansas license in 1960, and practiced medicine in Abilene since that time.

Surviving Dr. Bell are his wife, a daughter, and two sons.

HOWARD R. ELLIOTT, M.D.

Dr. Howard Reno Elliott, 62, died September 18, 1976, in Pittsburg. He was born December 1, 1913, in Scammon.

Dr. Elliott was graduated from the University of Kansas School of Medicine in 1942. He established his practice in Pittsburg in 1948, where he practiced until retirement in 1975.

HARVEY S. SMITH, M.D.

Dr. Harvey Sydney Smith, of Concordia, died September 16, 1976, at the age of 63. He was born March 3, 1913, in St. Louis.

Dr. Smith was graduated from Washington University Medical School, St. Louis, in 1937. His medical practice in Concordia was established in 1963. He was Board certified clinical pathologist.

Survivors include his wife, a daughter, and a son.

Vox Dox

Vox Dox Editor:

I am currently engaged in research on the Manchausen's (hospital addiction) syndrome and its variants. I would like to correspond with other physicians who have had personal contact with such patients. To this end, I would appreciate it if you would print this letter in your letters section.

S. E. Hyler, M.D.
5620 Netherland Ave.
Riverdale, NY 10471

Reactive Hypoglycemia

(Continued from page 494)

plained to the patient. High protein, low carbohydrate diets in small multiple meals, and if necessary a mild tranquilizer in functional hypoglycemia, with plenty of assurance by the physician, is of definite help.

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Asthma and Aerosol Steroids

(Continued from page 504)

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Announcements

Dec. 4-8 **American Medical Association, Philadelphia.**

Dec. 4-9 American Academy of Dermatology, Annual. Palmer House, Chicago. INFO: W. Mitchell Sams, Jr., M.D., Department of Dermatology, North Carolina Memorial Hospital, Chapel Hill, NC 27514.

Dec. 9-10 Kansas City Society of Ophthalmology and Otolaryngology, Annual. Hilton Plaza Inn, Kansas City, Mo. 14 hrs. credit Category I. INFO: Roger A. Weis, Executive Director, 3036 Gillham Road, Kansas City, MO 64108.

JANUARY

Jan. 13-15 U.S. Virgin Island Medical Society, Buccaneer Hotel, St. Croix by the Sea Hotel, St. Croix, V.I. 14 hrs. credit Category I. INFO: Airmail, James S. Glenn, M.D., PO Box 520, Christiansted, St. Croix, VI 00820.

Jan. 21-22 American Heart Association, Arizona Affiliate, Annual. Mountain Shadows Resort Hotel, Scottsdale. INFO: American Heart Association, 1445 East Thomas Road, Phoenix, AZ 85014.

Jan. 30-Feb. 5 American Society of Contemporary Ophthalmology, Annual. Diplomat Hotel, Hollywood, Fla. 42 hrs. credit Category I. INFO: John Bellows, M.D., 30 N. Michigan Ave., Chicago, IL 60602.

Jan. 30-Feb. 5 American Society of Contemporary Medicine and Surgery, Annual. Diplomat Hotel, Hollywood, Fla. 40 hrs. credit Category I. INFO: John Bellows, M.D., 30 N. Michigan Ave., Chicago, IL 60602.

Jan 20-22 Seventh Annual Postgraduate Course in Gastroenterology, *Small Intestine and Colon,* Alton Ochsner Medical Foundation. INFO: Continuing Education, 1516 Jefferson Highway, New Orleans, LA 70121.

Feb. 3-5 *Vascular Surgery—Updated,* Ochsner Medical Institutions. INFO: Continuing Education, 1516 Jefferson Highway, New Orleans, LA 70121.

Fall Session

of the

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Sunday, November 7, 1976—10:00 A. M.

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ONE-DAY BUSINESS MEETING TO CONSIDER ITEMS RELATING TO LEGISLATION AND OTHERS THAT CANNOT BE DELAYED UNTIL MAY. IT IS HOPED ALL COMPONENT SOCIETIES WILL BE REPRESENTED BY THEIR FULL COMPLEMENT OF DELEGATES.

All members of the Society are invited.



Personalities—IN KANSAS MEDICINE

Jesse D. Rising, Kansas City, director and chairman of the department of postgraduate medical education at KUMC, was elected president of the American Heart Association, Kansas Affiliate.

In an effort to standardize the laboratory procedures in quality control in the 30 government operated hospitals throughout Peru, the Peruvian government invited **Antonio Huaman,** Topeka, to conduct a week-long workshop on modern laboratory procedures.

A. C. Irby, Fort Scott, has retired after practicing medicine for 46 years, 36 in pediatrics.

Chancellor Archie R. Dykes announced the appointment of **Ernest W. Crow,** Wichita, to the University of Kansas Chancellor's Associates.

Donald Argo, Marysville, discussed diabetes at a recent meeting of the Northeast Kansas LPN Association.

A recent coronary care seminar, held at the Creighton University School of Medicine, in Omaha, was attended by **Jack G. Rowlett,** Paola, **W. Lynn McKim,** Kinsley, and **Karl W. Plowman,** Jewell.

Phillip S. Olsen, El Dorado, was the featured speaker for a program on arthritis, presented by the Butler Arthritis Foundation.

Speaking to the Etude Club, **William J. Ciskey,** Eureka, stressed the need for inoculations for infants, and highlighted the importance of exercise, proper diet, and non-smoking for adults.

Frances A. Allen, Newton, discussed Complications of Diabetes at a meeting sponsored by the Harvey chapter, American Diabetes Association.

Kansas Press Women learned from **Walter Menninger,** Topeka, the banquet speaker, "How to Write a Column, (or Do Your Thing) and Still Retain Your Mental Health."

James W. Wilson, Coffeyville, received the Zeus award from the Delta Rho sorority, for his contributions to the community.

Among those attending the annual meeting of the American Heart Association, Kansas Affiliate, were **Hall E. Harrison** and **John B. Hiebert,** Topeka.

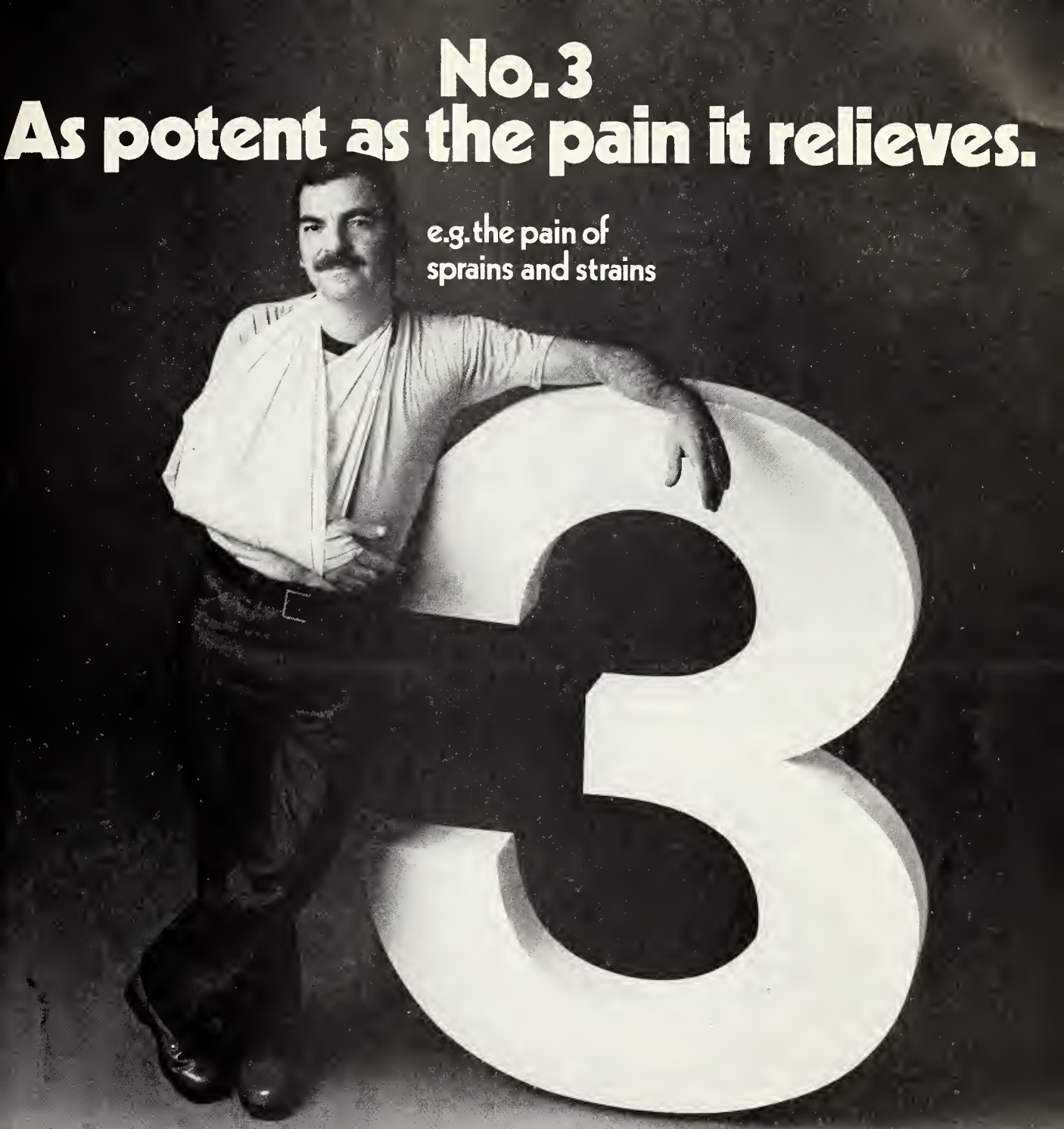
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Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high-contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

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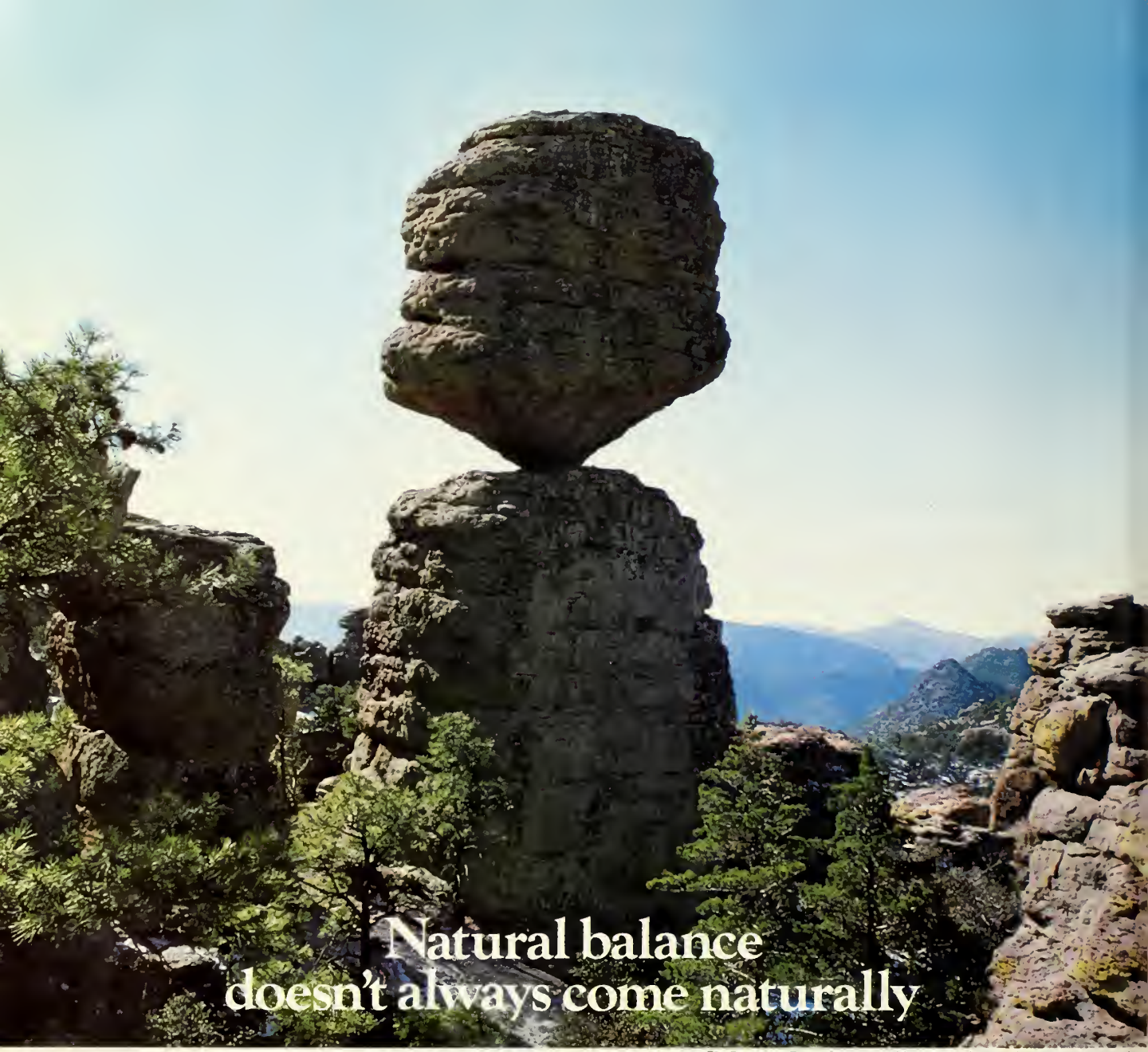
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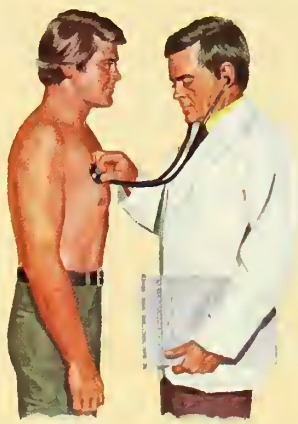
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Bacterial or nonbacterial?

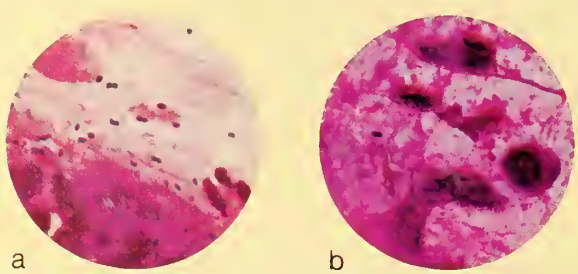
In the early stages of mild to moderate pneumonia, it is often difficult to reach an accurate bacteriologic diagnosis. A tentative differentiation may be made on history-taking, physical examination, CBC with differential analysis, and microscopic study of the sputum smear. Specimens should be obtained for culture and sensitivity testing, but when a bacterial pneumonia is diagnosed, therapy is often instituted before the etiological agent is positively identified.



Bacterial pneumonias may have a sudden onset with a shaking chill, rapid development of fever, pleuritic pain, and cough productive of rust-colored sputum. The Gram-stained sputum smear generally shows polymorphonuclear neutrophils as well as a predominance of the causative organisms. These are likely to be *Streptococcus pneumoniae,* still by far the most frequently encountered agent in bacterial pneumonia.[1] The CBC reveals marked leukocytosis with a shift to the left.

In *nonbacterial pneumonias*—mycoplasmal or viral—classical symptoms tend to develop more slowly, with myalgia, lassitude, and headache predominating. Sputum production is usually scanty, and the sputum smear is relatively uninformative, showing gram-positive cocci and other organisms which are part of the normal pharyngeal flora. The leukocyte count is normal or slightly elevated.

Direct Gram-stained sputum smears. (a) Pneumococcal pneumonia—note abundant polymorphonuclear leukocytes, as well as gram-positive diplococci. (b) Nonspecific—consistent with viral or mycoplasmal pneumonia. Note large mononuclear cell, as well as a few polymorphs and mixed bacterial flora (pharyngeal contaminants).



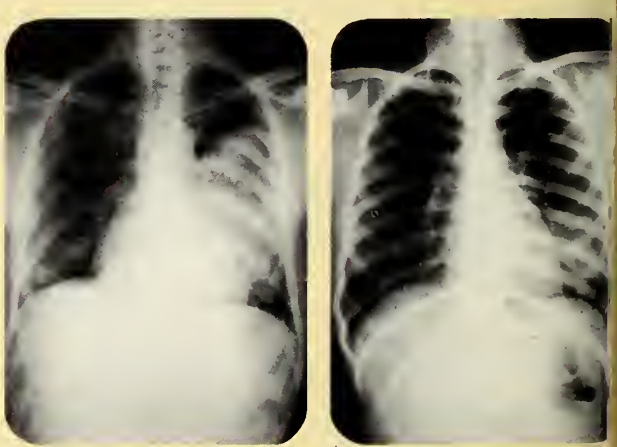
a b

Mycoplasmal or viral?

Differentiation between mycoplasmal and viral pneumonias may be impossible in the acute stage.[2]

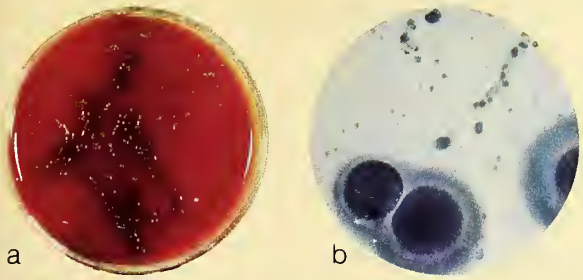
Serologic testing and culture methods for *Mycoplasma pneumoniae* are complex and time-consuming, taking as long as two weeks after obtaining samples. The sensitivity and specificity of the test for cold agglutinins have been questioned. The complement-fixing antibody test may reflect previous infection. Furthermore, facilities for culturing *M. pneumoniae* are not widely available.[3]

If treatment is to be initiated, therefore, it may be necessary to start on the basis of a *presumptive* diagnosis of mycoplasmal pneumonia.[1-3] In reaching such a diagnosis, the physician relies on clinical judgment, considering such factors as the age of the patient and the history of exposure. For example, *Mycoplasma pneumoniae* is considered the most common cause of pneumonia among ambulatory patients aged 20 to 35.[1]



a b

Chest x-rays of patients with (a) pneumococcal pneumonia—classically heavy, extensive infiltration of left lung; (b) mycoplasmal pneumonia—mild infiltrate confined to left lower lobe. Roentgenography usually does not help in differential diagnosis, since both types of pneumonias may present with a wide spectrum of x-ray as well as clinical findings.



a b

(a) Distinct mucoid colonies of type 3 pneumococci (*Streptococcus pneumoniae*) on sheep blood agar showing greenish discoloration (alpha-hemolysis) of medium. (b) Typical "fried-egg" colonies of *Mycoplasma pneumoniae* consisting of dense central core with lighter periphery. Cultural and serologic methods for detecting *M. pneumoniae* are complex, time-consuming, and not widely available.

Expectant therapy

n the patient with a presumptive diagnosis of ıycoplasmal pneumonia or bacterial pneumonia, it ıay be desirable to initiate antibiotic therapy before ulture and sensitivity results are available.

A course of erythromycin or tetracycline is onsidered effective in the treatment of mycoplasmal neumonia to help speed the clearing of infiltrate and horten the duration of symptoms.[1,3] In pneumococcal neumonia, erythromycin is an effective alternative to enicillin, the drug of choice. A recent report, based n data from 200 hospitals of 100 beds or more, found 8% of *S. pneumoniae* sensitive *in vitro* to rythromycin.[4]

Among these therapeutic agents, only rythromycin provides effective coverage of both *Aycoplasma pneumoniae* and *S. pneumoniae*. The enicillins are not effective against *Mycoplasma*, and *. pneumoniae* has shown a relatively high incidence f resistance to tetracycline.

When erythromycin is selected for therapy, -Mycin (erythromycin enteric-coated tablets, Upjohn) s a good choice. E-Mycin is administered and bsorbed as active erythromycin base, and may be aken q.i.d., q 6h, or b.i.d., immediately after meals or etween meals. Thus, patients can use mealtimes to elp them remember their medication. The enteric oating on E-Mycin tablets helps ensure efficient bsorption in the intestinal tract, and bioavailability tudies show that E-Mycin can be expected to roduce predictable, acceptable blood levels. The ow cost of E-Mycin helps assure economical therapy.

E-Mycin rarely causes serious side effects and is ot associated with liver toxicity.* The most frequent ide effects are upper gastrointestinal, such as bdominal cramping and discomfort, and are dose-elated. Nausea, vomiting, and diarrhea occur ıfrequently with usual oral doses. Serious allergic eactions, including anaphylaxis, have rarely been eported.

lse cautiously in patients with severe liver impairment.

EFERENCES: 1. Chusid EL, Dalrymple W, Holloway WJ, et al: Managing the infectious neumonias. *Patient Care* 9:122-167, 1975. 2. The occasional might of mycoplasma. *mergency Med* 7:82, 85, 1975. 3. Stevens DA: Viral and Mycoplasma pneumonias. *ostgrad Med* 55:81-86, 1974. 4. Data source: PMR Bacteriologic Report, Winter Series 1975-1976. Data are a compilation of laboratory reports submitted during December 1975 and January and February 1976 by 200 acute care hospitals of 100 beds or more.

Please turn page for brief summary of prescribing information.

Summary

Because pneumonias may be difficult to differentiate at the outset, treatment is often initiated before a causal diagnosis is made. However, readily available diagnostic criteria occasionally allow early differentiation between bacterial and nonbacterial pneumonias. When the diagnosis appears to be nonbacterial pneumonia, further differentiation between mycoplasmal pneumonia and viral pneumonia is more complex and time-consuming. Therefore, therapy is often initiated on the basis of a *presumptive* diagnosis of mycoplasmal pneumonia.

Erythromycin is an effective antibiotic against *Mycoplasma pneumoniae*, *Streptococcus pneumoniae*,† and *Streptococcus pyogenes*.† E-Mycin (erythromycin enteric-coated tablets, Upjohn) is administered and well absorbed as the active base, may be taken immediately after meals or between meals, and is essentially nontoxic.

†Although penicillin remains the drug of choice against these organisms, erythromycin is an effective alternative.



E-Mycin® 250 mg

erythromycin enteric-coated tablets, Upjohn

wide-ranging usefulness in pneumonia*

*Mild to moderately severe, due to susceptible organisms.

Upjohn The Upjohn Company, Kalamazoo, Michigan 49001, U.S.A.
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Wide-ranging usefulness in pneumonia*

E-Mycin® 250 mg

erythromycin enteric-coated tablets, Upjohn

Upjohn

- For mild to moderately severe infections due to susceptible organisms that commonly invade the respiratory tract
- Essentially nontoxic (see Precautions and Adverse Reactions below)
- Documented bioavailability
- May be taken immediately after meals or between meals
- Active base formula produces predictable blood levels
- Formulated for quality...priced for economy

E-MYCIN® TABLETS — 250 mg — For Oral Administration (erythromycin enteric-coated tablets, Upjohn)
E-Mycin Tablets are specially coated to protect the contents from the inactivating effects of gastric acidity and to permit efficient absorption when administered either immediately after meals or when given between meals on an empty stomach.

Indications: *Streptococcus pyogenes (group A beta-hemolytic streptococci):* Upper and lower respiratory tract, skin, and soft-tissue infections of mild to moderate severity. Parenteral benzathine penicillin G is considered by the American Heart Association to be the drug of choice in the treatment and prevention of streptococcal pharyngitis and in long-term prophylaxis of rheumatic fever. When oral medication is necessary (because the parenteral route is contraindicated) or if there is known allergy to penicillin, the following recommendations made by the American Heart Association apply: 1) Oral penicillin G or V (where no allergy exists)—This is the drug of choice. Give for a minimum of 10 days; 2) Erythromycin—Give for a minimum of 10 days. A few strains of streptococci resistant to erythromycin have been reported.
Alpha-hemolytic streptococci (viridans group): Short-term prophylaxis against bacterial endocarditis prior to dental or other operative procedures in patients with a history of rheumatic fever or congenital heart disease who are hypersensitive to penicillin. (Erythromycin is not suitable prior to genitourinary surgery where the organisms likely to lead to bacteremia are gram-negative bacilli or the enterococcus group of streptococci.)
Staphylococcus aureus: Acute infections of skin and soft tissue of mild to moderate severity. Resistance may develop during treatment.
Diplococcus pneumoniae: Upper respiratory tract infections (eg, otitis media, pharyngitis) and lower respiratory tract infections (eg, pneumonia) of mild to moderate degree.
Mycoplasma pneumoniae (Eaton agent, PPLO): In the treatment of primary atypical pneumonia, when due to this organism.
Treponema pallidum: Infections due to this organism.
Corynebacterium diphtheriae and *Corynebacterium minutissimum:* As an adjunct to antitoxin, to prevent establishment of carriers, and to eradicate the organism in carriers. In the treatment of erythrasma.
Entamoeba histolytica: In the treatment of intestinal amebiasis only. Extraenteric amebiasis requires treatment with other agents.
Listeria monocytogenes: Infections due to this organism.

Contraindication: Contraindicated in patients with known hypersensitivity to erythromycin.

Warning: Safety for use in pregnancy has not been established.

Precautions: Erythromycin is principally excreted by the liver. Caution should be exercised in administering the antibiotic to patients with impaired hepatic function. Surgical procedures should be performed when indicated.

Adverse reactions: The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses. During prolonged or repeated therapy, there is a possibility of overgrowth of nonsusceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted. Mild allergic reactions such as urticaria and other skin rashes have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Treatment of overdosage: The drug is virtually nontoxic, though some individuals may exhibit gastric intolerance to even therapeutic amounts. Allergic reactions associated with acute overdosage should be handled in the usual manner—that is, by the administration of adrenalin, corticosteroids, and antihistamines as indicated and the prompt elimination of unabsorbed drug, in addition to all needed supportive measures.

How supplied: 250 mg enteric-coated tablets—in bottles of 100 and 500 tablets, and in unit-dose packages of 100 tablets. Caution: Federal law prohibits dispensing without prescription.

For additional product information, consult the package insert or see your Upjohn Representative.

NAS-4

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J-5122-

*Mild to moderately severe, due to susceptible organisms

Cold/Allergy and Cough Country



Rynatan® Country

RYNATAN, for symptomatic relief of colds and allergic rhinitis. Convenient b.i.d. tablet and liquid dosage.

Rynatuss® Country

RYNATUSS, for symptomatic relief of coughs due to colds and in acute and chronic bronchitis. Convenient b.i.d. tablet and liquid dosage.

Mallinckrodt® Pharmaceuticals *Linking chemistry to medicine®*

Mallinckrodt, Inc. St. Louis, Mo. 63147

RYNATAN®: Each tablet contains Phenylephrine Tannate, 25 mg.; Chlorpheniramine Tannate, 8 mg.; Pyrilamine Tannate, 25 mg.

Each 5 ml. (1 teaspoonful) RYNATAN® PEDIATRIC SUSPENSIDN contains: Phenylephrine Tannate, 5 mg.; Chlorpheniramine Tannate, 2 mg.; Pyrilamine Tannate, 12.5 mg. CDNVENIENT B.I.D. DDSAGE for convenience and economy.

INDICATIONS: RYNATAN provides symptomatic relief of the coryza and nasal congestion associated with the common cold, other upper respiratory infections and allergic rhinitis. In sinusitis, drainage from the affected sinuses may be improved.

CONTRAINDICATIONS: RYNATAN is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery.

ADVERSE REACTIONS: Drowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

DOSAGE ANO AOMINISTRATION: RYNATAN TABLETS: 1 or 2 tablets every 12 hours.

RYNATAN PEDIATRIC SUSPENSION: For children over six years of age, 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours: for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

RYNATUSS®: Each tablet contains Carbetapentane Tannate, 60 mg.; Chlorpheniramine Tannate, 5 mg.; Ephedrine Tannate, 10 mg.; Phenylephrine Tannate, 10 mg.

Each 5 ml. (1 teaspoonful) RYNATUSS® PEDIATRIC SUSPENSIDN contains Carbetapentane Tannate, 30 mg.. Chlorpheniramine Tannate. 4 mg.. Ephedrine Tannate, 5 mg.; Phenylephrine Tannate, 5 mg. CDNVENIENT B.I.D. DDSAGE for convenience and economy

INDICATIONS: In the treatment of coughs due to the common cold, asthma, and in acute and chronic bronchitis.

CONTRAINDICATIONS: RYNATUSS is contraindicated in those patients who are sensitive to sympathomimetic drugs.

PRECAUTIONS: Use with caution in patients with hypertension, hyperthyroidism, diabetes or coronary artery disease: warn of possible drowsiness in patients who may operate vehicles or machinery

ADVERSE REACTIONS: Drowsiness and dryness of the mouth are occasionally associated with antihistamine therapy in some individuals.

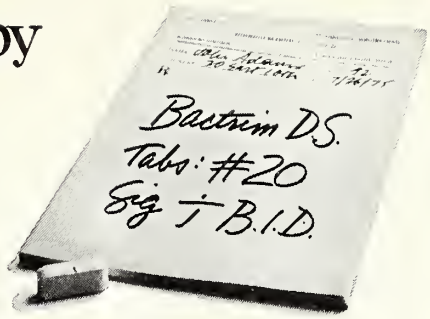
DOSAGE ANO ADMINISTRATION: RYNATUSS TABLETS: Adults—1 to 2 tablets every 12 hours.

RYNATUSS PEDIATRIC SUSPENSION: For children over six years of age. 5 to 10 ml. (1 to 2 teaspoonfuls) every 12 hours: for children two to six years of age, 2.5 to 5 ml. (½ to 1 teaspoonful) every 12 hours; for children under two years of age, 1.7 ml. (⅓ teaspoonful) every 12 hours.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

The above represents a brief summary. See package inserts for full prescribing information.

10-day Bactrim therapy outperforms 10-day ampicillin therapy.



In a multicenter, double-blind study of patients with chronic or frequently recurrent urinary tract infection, Bactrim 10-day therapy outperformed ampicillin 10-day therapy by 27.2%, when comparing patients who maintained clear cultures for eight weeks. Criterion for "clear culture" was 1000 or fewer organisms/ml of urine.

While adverse reactions noted in this study were mild (*e.g.*, vomiting, nausea, rash), more serious reactions can occur with these drugs. See manufacturer's product information for complete listing. Maintain adequate fluid intake; perform frequent CBC's and urinalyses with microscopic examination.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Bactrim™ DS
(160 mg trimethoprim and 800 mg sulfamethoxazole)
Double Strength tablets
Just 1 tablet B.I.D.

Bactrim™
(80 mg trimethoprim and 400 mg sulfamethoxazole)
2 tablets B.I.D.

For chronic or frequently recurrent cystitis and pyelonephritis due to susceptible organisms.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Chronic urinary tract infections evidenced by persistent bacteriuria (symptomatic or asymptomatic), frequently recurrent infections (relapse or reinfection), or infections associated with urinary tract complications, such as obstruction. Primarily for cystitis, pyelonephritis or pyelitis due to susceptible strains of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris* and *Proteus morganii.*

NOTE: The increasing frequency of resistant organisms limits the usefulness of antibacterials, especially in these urinary tract infections. The recommended quantitative disc susceptibility method (*Federal Register, 37*:20527-20529, 1972) may be used to estimate bacterial susceptibility to Bactrim. A laboratory report of "Susceptible to trimethoprim-sulfamethoxazole" indicates an infection likely to respond to Bactrim therapy. If infection is confined to the urine, "Intermediate susceptibility" also indicates a likely response. "Resistant" indicates that response is unlikely.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; pregnancy; nursing mothers.

Warnings: Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted. **Data are insufficient to recommend use in infants and children under 12.**

Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L. E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for children under 12. Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days.

For patients with renal impairment:

Creatinine Clearance (ml/min)	Recommended Dosage Regimen
Above 30	Usual standard regimen
15-30	1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) every 24 hours
Below 15	Use not recommended

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole — bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40, available singly and in trays of 10.

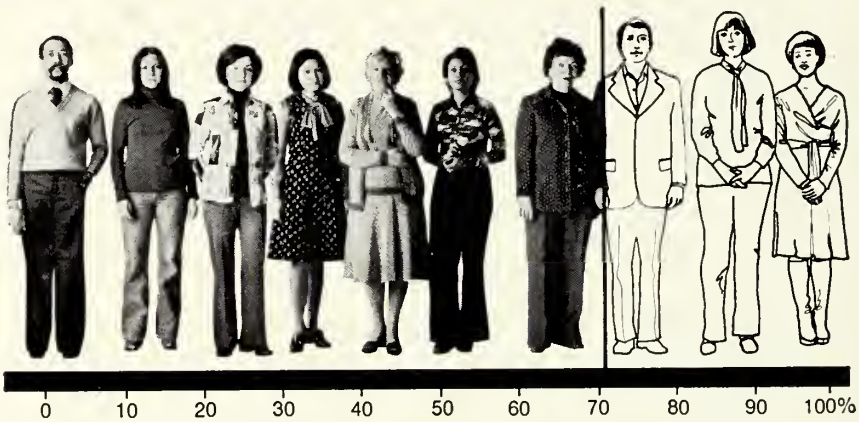
Oral suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole; fruit-licorice flavored — bottles of 16 oz (1 pint).

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Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

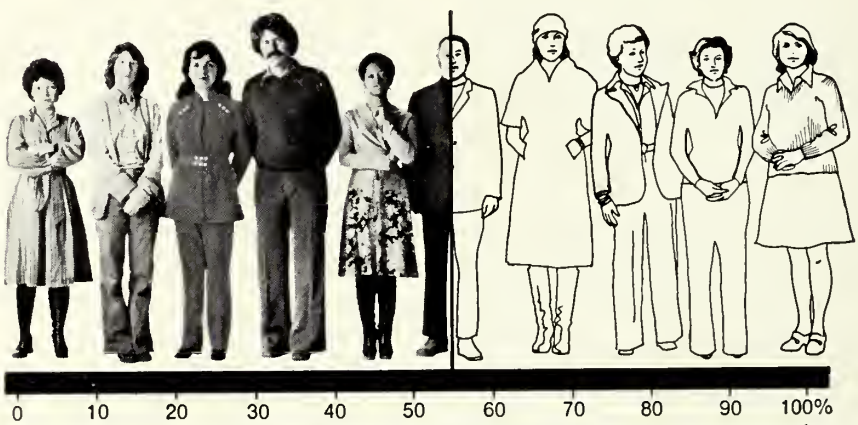
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In a multicenter study of patients with chronic or frequently recurrent urinary tra

Bactrim was 27.2%* more effective than ampicillin i keeping patients infection-free for 8 weeks



Bactrim–70.5% of 78 patients infection-free at 8 weeks.



ampicillin–55.4% of 74 patients infection-free at 8 weeks.

*This percentage is arrived at by the statistical method of dividing the difference between Bactrim and ampicillin results (15.1%) by the percent of ampicillin results (55.4%).

†Data on file, Hoffmann-La Roche Inc., Nutley, New Jersey 07110

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole)

Double Strength tablets Just 1 tablet B.I.D.

Note: Bactrim tablets were used in these clinical trials. Bioequivalency studies show one Bactrim DS double strength tablet is equivalent to two Bactrim tablets.

Please see summary of product information on preceding page.

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RESOLUTIONS

THE Journal OF THE Kansas Medical Society

DECEMBER
1976

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures require increased dosage of standard convulsant medication; abrupt withdr may be associated with temporary increase in frequency and/or severity o seizures. Advise against simultaneous gestion of alcohol and other CNS depr sants. Withdrawal symptoms (similar those with barbiturates and alcohol) h occurred following abrupt discontinu (convulsions, tremor, abdominal and cle cramps, vomiting and sweating). addiction-prone individuals under car

respond to one

According to her major
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s is because her problem,
lough primarily one of ex-
sive anxiety, is often accom-
ied by depressive symptom-
logy. Valium (diazepam)
provide relief for both—as
excessive anxiety is re-
ed, the depressive symp-
s associated with it are also
n relieved.

There are other advan-
es in using Valium for the
nagement of psychoneu-
c anxiety with secondary
ressive symptoms: the
chotherapeutic effect of
ium is pronounced and
d. This means that im-
vement is usually apparent
in the patient within a few days rather than in a week or two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.



Valium® (diazepam) Ⓘⓥ

2-mg, 5-mg, 10-mg scored tablets

in psychoneurotic
anxiety states
with associated
depressive symptoms

eillance because of their predisposi-
to habituation and dependence.

***Usage in Pregnancy:* Use of minor ranquilizers during first trimester hould almost always be avoided ecause of increased risk of con-enital malformations as suggested n several studies. Consider pos-ibility of pregnancy when institut-ng therapy; advise patients to liscuss therapy if they intend to or lo become pregnant.**

:autions: If combined with other psy-tropics or anticonvulsants, consider fully pharmacology of agents em-ployed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.

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Nutley, New Jersey 07110

Volume LXXVII, Number 12—December, 1976

The JOURNAL of the KANSAS MEDICAL SOCIETY

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Address all correspondence to the JOURNAL OF THE KANSAS MEDICAL SOCIETY, 1300 Topeka Avenue, Topeka, Kansas 66612. Manuscripts should be submitted to the Managing Editor. Refer to "Information for Authors" for details.

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The JOURNAL is published monthly by the Kansas Medical Society at 1201-1205 Bluff Street, Fulton, Missouri 65251. A year's subscription is included in membership in the Kansas Medical Society, with $10.00 of each member's dues apportioned to the JOURNAL. Rates to others, except in foreign countries, $10.00 per year or $1.50 per copy. Second-class postage paid at Fulton, Missouri. Non-Responsibility: Although effort is made to publish only accurate articles and legitimate advertisements, the JOURNAL denies legal responsibility for statements, opinions, or advertisements appearing under the names of contributors or concerns. Printed by The Ovid Bell Press, Inc., Fulton, Missouri.

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Woman's Auxiliary

Open Letter to the Doctors of Kansas

Dear Friends,

We are in the midst of our happiest season, and hope all will take time to thank God for our many blessings, and remember to share a little time and friendship with the less fortunate, the elderly, and sometimes forgotten friends. We need to forget the dollar sign, and return to the old-fashioned era of sharing ourselves with others.

During the past six weeks while traveling and criss-crossing Kansas from Cimarron in the southwest to Pittsburg in the southeast, Sabetha in the northeast and Colby in the northwest, I have grown to love and appreciate our marvelous state. I whiled away my time adjusting the cruise control to 59½, fiddling with the radio and listening to news, local announcements, and musical noise ranging from jazz to literally screeching sounds at times. Thus, I had ample time to meditate and count the many blessings that Kansas has given to my own family: moderate climate, good health, good schools for my children, and a stable family life without large-city pressures. Also, I had ample time to watch the barren western plains by observing the grazing cattle, the pumping oil wells, and the fascinating array of pick-up trucks; eastern Kansas sloping hills glowing with brilliant trees and gorgeous leaves of green, gold, orange, and red hues; and sometimes, my eyes wandered from the road to the roadside beauties. Unfortunately, we fail to advertise the beauty of our state to outsiders.

Auxiliary visits were educational and informative, and we enjoyed meeting many wonderful ladies and learning about their local interests, hobbies, exciting personal jobs, sports interests, and especially hearing about their diversified Auxiliary projects. Our county presidents are alert, intelligent ladies and are really carrying out the Auxiliary programs and projects offered by our national organization. Community service projects were stressed in all communities and range from book sale profits used for several community projects, cancer volunteers, international health donations (excellent for small communities), volunteers to assist with the swine flu immunization clinics, bloodmobile donors and workers, hospital auxiliary volunteers, and many others.

The AMA-ERF Gold Dust twins report over $2,100 donated by Kansas physicians in reply to their letter mailed to you last month. We appreciate and thank you for your donations.

We are extremely fortunate to have two intelligent and competent young men, Jerry Slaughter and Gary Caruthers working in the KMS office, and we appreciate their expedient assistance. However, many times we take Jerry and Gary for granted, and fail to thank them for their courteous efforts on our behalf. They do represent the KMS in many areas; and, when you receive assistance please acknowledge their help, and in turn, be willing to offer your help during the tough spring legislative months.

Our membership chairman Diane Sanders, and treasurer Evelyn Huff, are eagerly watching our membership rolls climb, and if your wife is not an Auxiliary member, please encourage her membership, and you may wish to pay her tax deductible dues. Moreover, if she does not wish to become actively involved, we will appreciate her moral and financial support.

Happy holidays!

Sincerely,
Jean Cavanaugh
President
Woman's Auxiliary to the
Kansas Medical Society

Deformity Appliances of Quality

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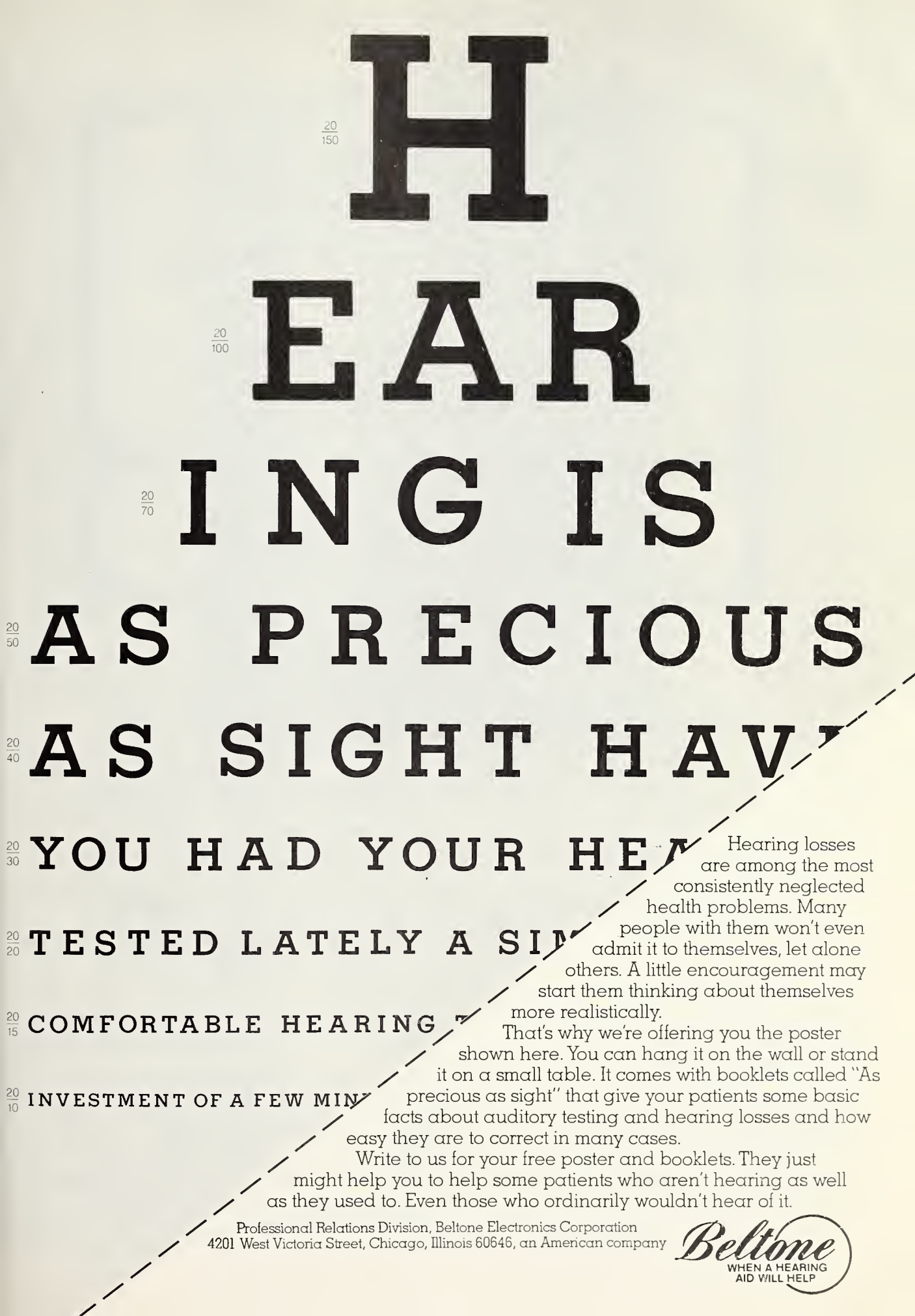
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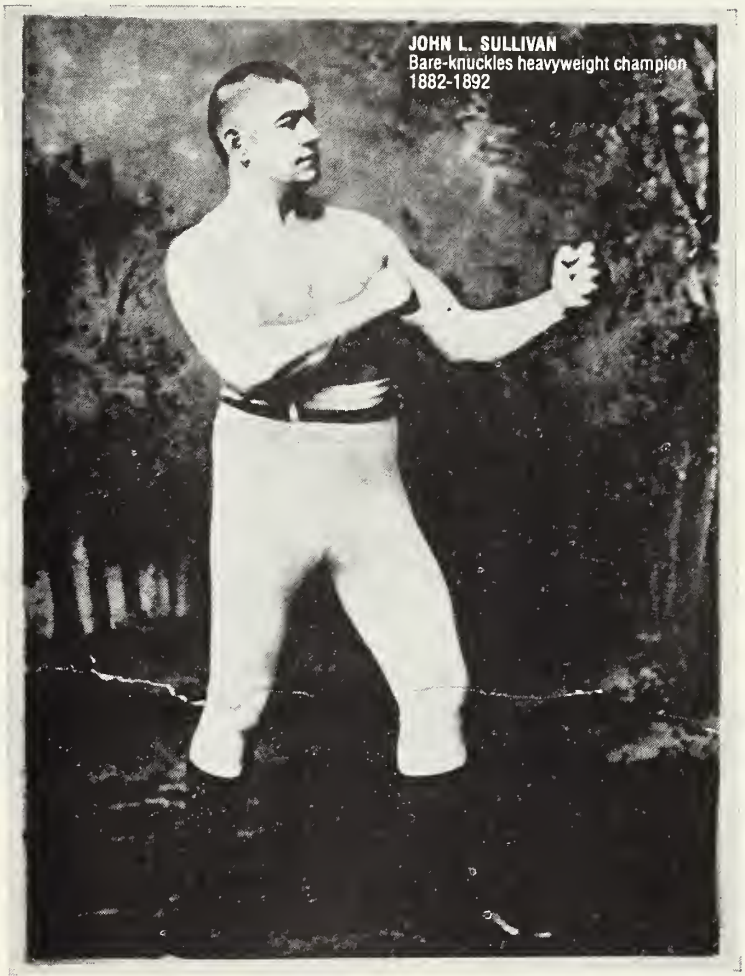
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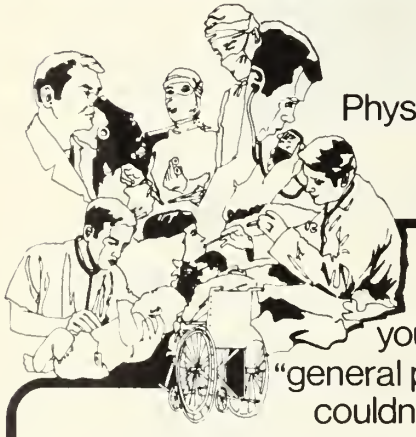
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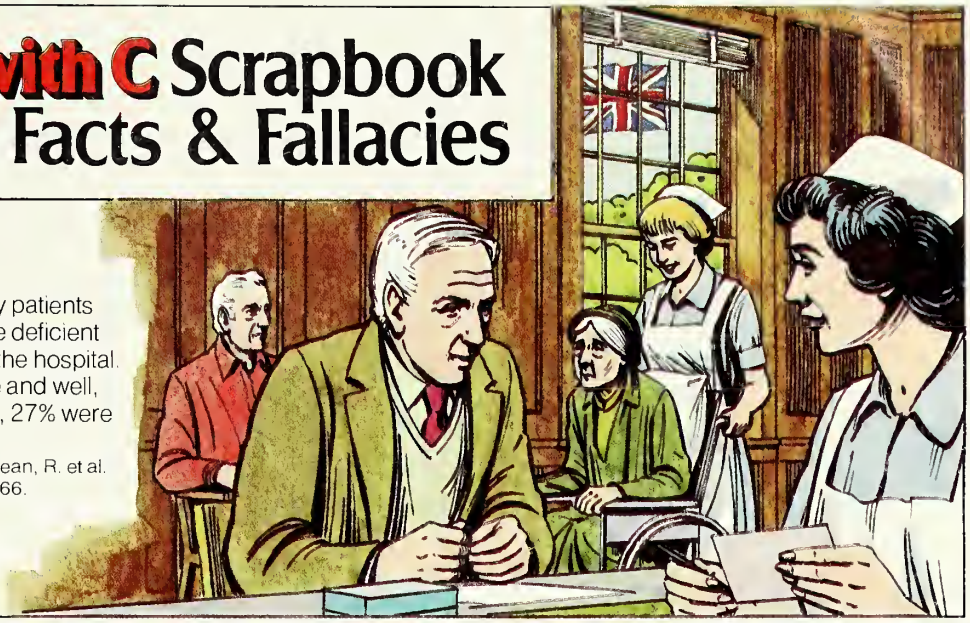
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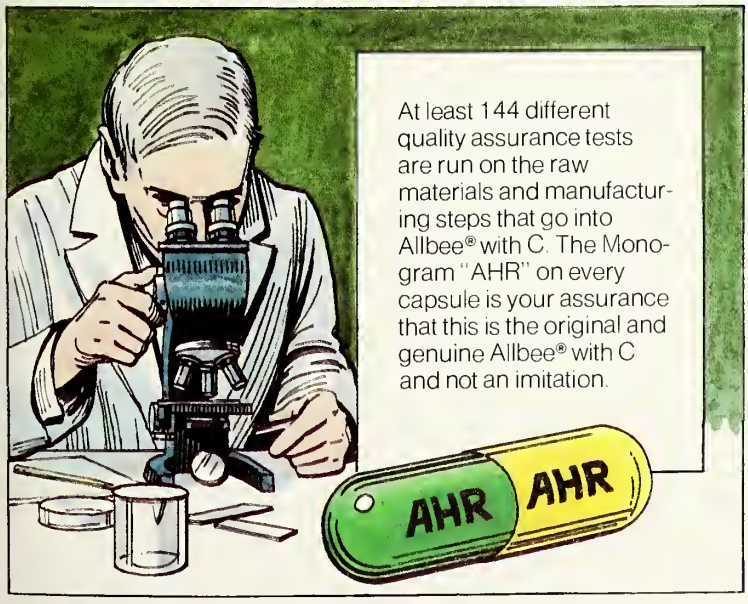
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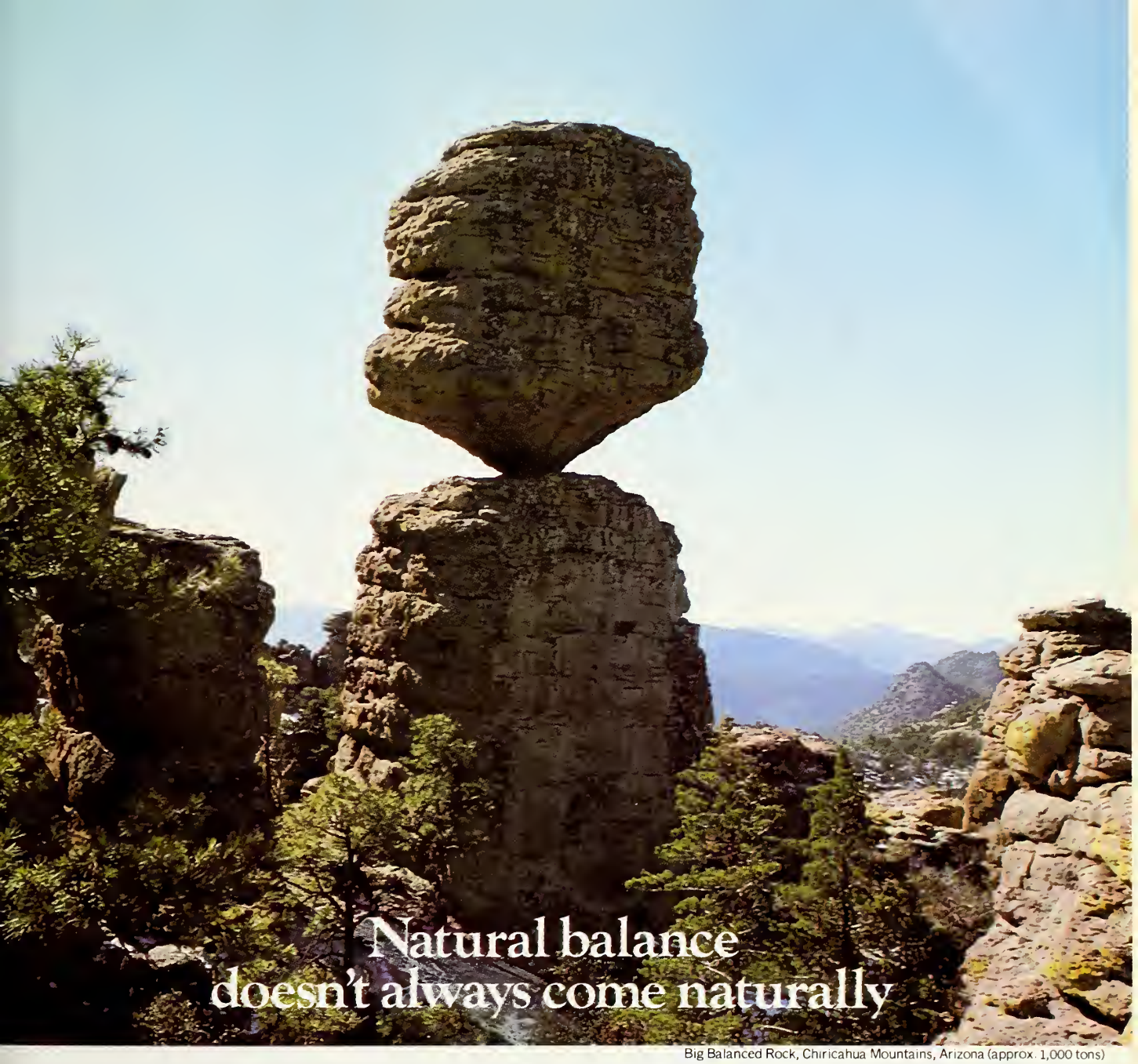
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Indications: Based on a review of this drug by the NAS/NRC and/or other information, FDA has classified the following indications as possibly effective: adjunctive therapy in the treatment of peptic ulcer; the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis. Final classification of the less-than-effective indications requires further investigation.

Brief summary: Contraindicated in patients with glaucoma, renal or hepatic disease, obstructive uropathy (for example, bladder neck obstruction due to prostatic hypertrophy) or a hypersensitivity to any of the ingredients. Blurred vision, dry mouth, difficult urination, and flushing or dryness of the skin may occur at higher dosage levels, rarely at the usual dosage.

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■ **Relief of Nausea and Vomiting**—Antivert/25 can relieve the nausea and vomiting often associated with vertigo.*

■ **Dosage for Vertigo***—The usual adult dosage for Antivert/25 is one tablet t.i.d.

BRIEF SUMMARY OF PRESCRIBING INFORMATION

*INDICATIONS. Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:

Effective: Management of nausea and vomiting and dizziness associated with motion sickness.

Possibly Effective: Management of vertigo associated with diseases affecting the vestibular system.

Final classification of the less than effective indications requires further investigation.

CONTRAINDICATIONS. Administration of Antivert (meclizine HCl) during pregnancy or to women who may become pregnant is contraindicated in view of the teratogenic effect of the drug in rats.

The administration of meclizine to pregnant rats during the 12-15 day of gestation has produced cleft palate in the offspring. Limited studies using doses of over 100 mg./kg./day in rabbits and 10 mg./kg./day in pigs and monkeys did not show cleft palate. Congeners of meclizine have caused cleft palate in species other than the rat.

Meclizine HCl is contraindicated in individuals who have shown a previous hypersensitivity to it.

WARNINGS. Since drowsiness may, on occasion, occur with use of this drug, patients should be warned of this possibility and cautioned against driving a car or operating dangerous machinery.

Usage in Children: Clinical studies establishing safety and effectiveness in children have not been done; therefore, usage is not recommended in the pediatric age group.

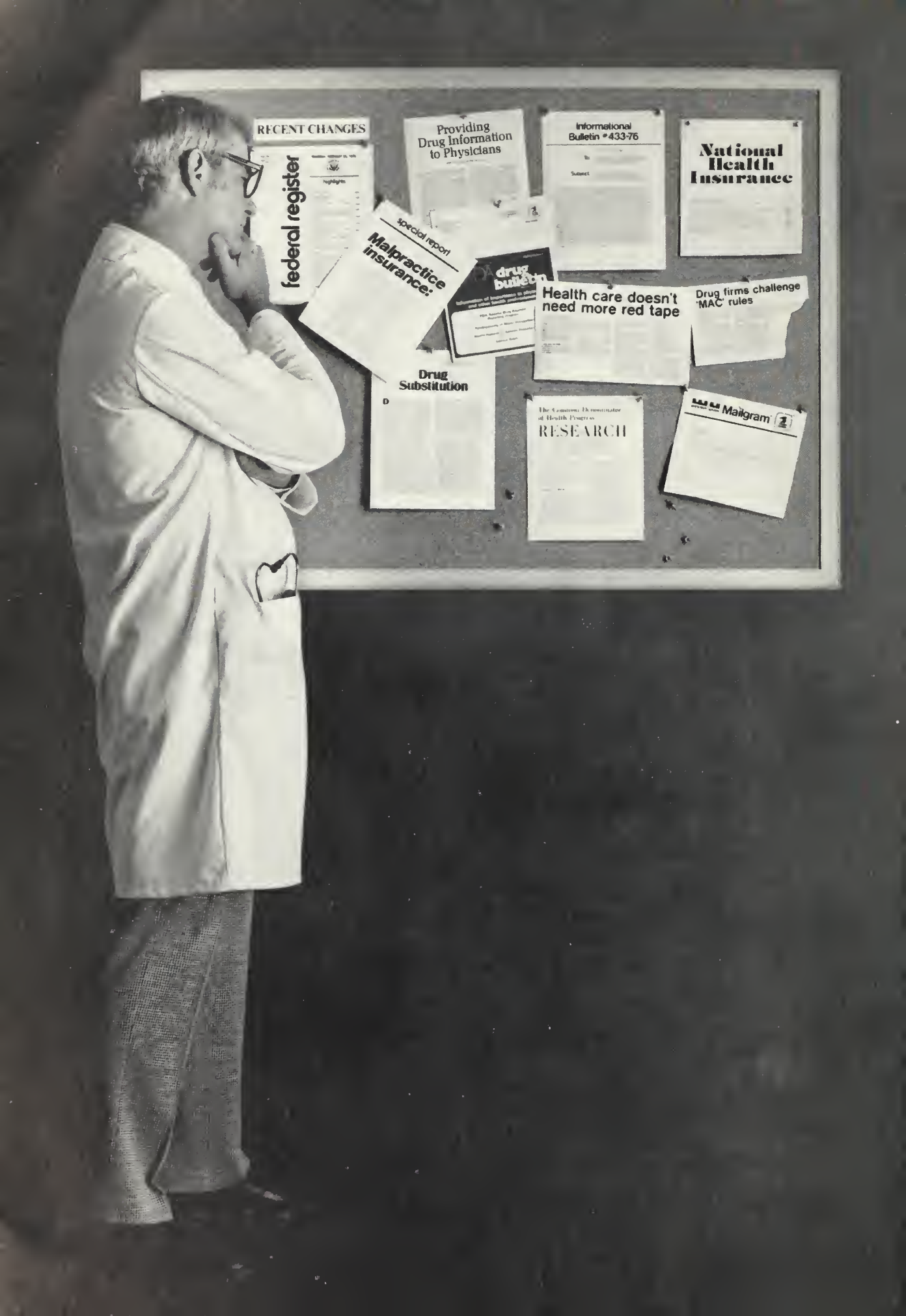
Usage in Pregnancy: See "Contraindications."

ADVERSE REACTIONS. Drowsiness, dry mouth and, on rare occasions, blurred vision have been reported.

More detailed professional information available on request.

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THERE ARE A LOT OF PEOPLE GETTING BETWEEN YOU AND YOUR PATIENT.

Medicine today is in the spotlight, subjected to all kinds of scrutiny. Your control over patient therapy is being monitored, judged and occasionally abrogated, sometimes by unknown third parties.

The worry is that in the wake of this focus, the relationship between you and your patient will be weakened, without offsetting benefits. Consider three examples:

Drug substitution In most states, pharmacy laws, regulations or professional custom stipulate that your non-generic prescriptions be filled with the precise products you prescribe. But in the last five years, a dozen or more State laws have been changed, permitting the pharmacist in most cases to select a product of the same generic drug to fill any prescription.

Ironically, this dilution of physician control has taken place against a background of growing evidence that purportedly equivalent drug products may be inequivalent, since neither present drug standards nor their enforcement are optimal. In fact, the FDA itself says it has not enforced the same standards for hundreds of "follow-on" products that it had applied to the original NDA approvals. Thus physician control over patient therapy is being eroded with a risk that patients may be exposed to drugs of uncertain quality.

The major advertised claim for substitution is reduced prescription prices for consumers. Yet no documentation of any significant savings has been produced.

MAC Maximum Allowable Cost, MAC for short, is a Federal regulation designed to cut the Government's drug bill by setting price ceilings for drugs dispensed to Medicare and Medicaid patients. Unless the prescriber certifies on the prescription that a particular product is medically necessary, the Government intends to pay only for the cost of the lowest-priced, purportedly-equivalent, generally-available product. The effect of the program may be that elderly and indigent patients will be restricted to products which someone in Washington believes are priced right. Practicing doctors will have little to say about administration of the program, since Government will have absolute authority to make its choices stick.

The drug lag The future of drug and device research depends upon a scientific and regulatory environment that encourages therapeutic innovations. The American pharmaceutical industry annually is spending more than $1 billion of its own funds and evaluating more than 1,200 investigational compounds in clinical research. Disease targets include cancer, atherosclerosis, viruses and central nervous system disorders, among others. But there is a major barrier to the flow of new drugs to your patients: The cost of the research is more than ten times what it was, per product, in 1962; and whereas governmental clearance of new drug applications took six months then, it commonly consumes two years now.

The FDA needs adequate time, of course, to consider data. But it is equally clear that the present approval process contributes to needless delay of needed therapy. That's why the increased efficiency of the drug approval process is vital to all our futures.

If these issues concern you, we suggest that you make your voice heard—among your colleagues and your representatives in State legislatures and in Washington.

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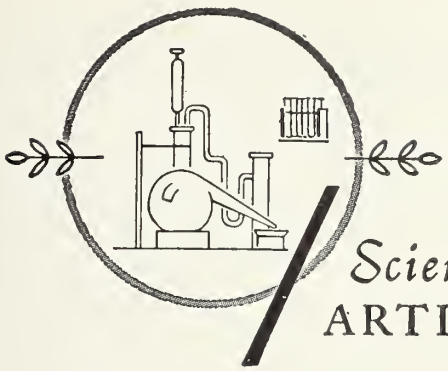
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Thromboembolism

Diagnosis and Prevention in Surgical Patients

FREDERICK W. RECKLING, M.D., ***Kansas City, Kansas***

THROMBOEMBOLIC disease is increasing rapidly in countries with high standards of medical and surgical care. It is estimated that there are approximately 250,000 persons in the United States who develop pulmonary embolism each year; 50,000 of these die as a result of embolism. Because of improvements in both operative survival and postoperative survival time, many more surgical patients remain at bed rest long enough to develop deep venous thrombosis, and to allow detachment to occur.

The prognosis of the condition on which embolism supervenes is obviously important, because upon it depends whether prevention of embolism would significantly prolong life. Ordinarily, for example, it matters little whether the coup de grace is bronchopneumonia, embolism or other event during the last stage of malignancy, and prevention in such cases would generally be pointless. On the other hand, death from embolism in a patient with a fractured ankle, or from postoperative embolism after an inguinal herniorrhaphy or cholecystectomy, is tragic and possibly preventable.

Pathogenesis

Thrombus was defined by Welch[1] as a solid mass or plug formed in flowing blood. It has a layered structure containing varying amounts of red cells, groups of granulocytes, and condensed masses of platelets bound by fibrin. The process is abacterial and histologically noninflammatory; therefore, the distinction between so-called thrombophlebitis and phlebothrombosis is not justified.

In 1856, Virchow[2] formulated his famous triad of stasis, changes in the vessel wall and in the blood for the pathogenesis of thrombus formation. It has been generally accepted that stasis, or reduced linear velocity of venous flow, is the major cause of venous thrombosis. Whether or not "hypercoagulable" blood changes are necessary is still debated, and the need for primary changes in the venous intima for thrombosis to occur remains questionable.

Clinical and necropsy studies substantiate a greater occurrence of venous thrombosis and embolism in the middle-aged and elderly.[3, 4] The greater frequency with increasing age is probably related to multiple factors. Decreased mobility at bed rest is probably very important. Other factors include age-related anatomical changes in veins of the lower limbs: the veins become large, dilated and tortuous, and thus promote venous stasis. Patients with previous thromboembolic disease are particularly affected. Other factors, such as obesity, cancer, trauma and oral contraceptives, may contribute to the incidence of thromboembolic disease, but the exact relationship is not clear, except where it leads to stasis from prolonged immobilization.[5]

From the Section of Orthopedic Surgery, KUMC, Kansas City, KS 66103.

Diagnosis

The clinical signs and symptoms of deep vein thrombosis are notoriously unreliable.[3, 5, 7–16] It has been shown that less than half of the patients who have developed deep vein thrombosis can be diagnosed by clinical examination alone.[5, 12, 14] In reviewing our hospital mortality figures in orthopedic service at the University of Kansas Medical Center over the period 1965-1975, we found a total of 51 deaths. There were 8,500 admissions to the service during that time, giving a mortality rate of 0.6 per cent. The clinical diagnosis of deep vein thrombosis was not made in any of these 51 patients; the clinical diagnosis of pulmonary embolism was made in 5; autopsies were performed on 17, with a diagnosis of pulmonary embolism as the cause of death established in 7. Only one of seven patients was thought to have pulmonary embolism on a clinical basis.

The incidence of thromboembolic disease appears to be particularly high in those patients with fractured hips and those undergoing elective reconstructive hip surgery, with a mortality rate varying from 2 to 10 per cent.[3, 7, 11, 14, 16, 17]

At the present time, venography is the most reliable method of detecting thrombosis.[3, 14, 17] Using this method, authors have reported an incidence of venous thrombosis in patients with femoral neck fractures varying from 39 to 56 per cent, and in general surgery patients undergoing elective procedures from 24 to 35 per cent.[7-9, 11, 14, 18]

I^{125}-labelled fibrinogen scanning methods have been used by some workers to detect venous thrombosis.[3, 12, 14] The possibility of hepatitis is one of the drawbacks of this method. Also, the fact that fibrinogen will accumulate in healing wounds, and will only be incorporated in a thrombus as it is being formed, limits its usefulness in postoperative patients. There are several other methods, such as the Doppler effect flow meter, impedance plethysmography and thermography, which are being investigated for clinical use in detecting venous thrombosis. Once a pulmonary embolism is suspected, clinical examination, blood gases, lung scan, and pulmonary arteriography may be employed to establish the diagnosis.

Prevention

Use of elastic stockings, elevation of the lower extremities, and leg exercises have been recently evaluated with labelled fibrinogen and have been found to be of some value in prevention of venous thrombosis in elderly patients undergoing major operations. Although only of modest benefit, they can be recommended because they are simple, inexpensive, and harmless.[19–22] More elaborate physical measures, such as electrical stimulation of the calf muscles and pneumatic compression, may be more effective but are too impractical and cumbersome for routine use.[21]

Several drugs are known to affect the blood clotting mechanisms and have been used clinically to prevent venous thrombosis and thromboembolism *(Figure 1)*. Heparin is known to interfere with blood coagulation in at least two ways: by preventing the activation of factor IX (Christmas factor) and factor XI (plasma thromboplastin antecedent) in the early coagulation sequence, and by its action as a potent antithrombin in the presence of heparin co-factor. Consequently, it inhibits the intrinsic and extrinsic coagulation mechanism. The advantage of heparin is that it is effective immediately, but its disadvantage is that it may cause hemorrhage and there is need for very strict laboratory control.[23, 24] Heparin must be given intravenously or subcutaneously.

Coumadin[7, 17] and its derivatives interfere with factors VII, IX, X, and II (prothrombin) in the coagulation mechanism, and thus affect the intrinsic and extrinsic mechanisms of coagulation. Coumadin can be given orally or parenterally, but the effect is delayed, and the laboratory control must be carefully maintained or hemorrhage can occur. Several agents have been used for prophylaxis against venous thrombosis because they interfere with blood platelet activity. One of these is low molecular weight dextran, which is thought to prevent the adhesion of platelets to the vascular intima,[4, 17, 25–27] and perhaps interfere with factor VIII in the clotting mechanism. The effect of dextran is immediate, but it must be administered intravenously and is contraindicated in patients with potential renal or cardiac failure.

Aspirin is known to inhibit platelet aggregation in vitro.[3, 27] Aspirin has been used as a prophylactic agent

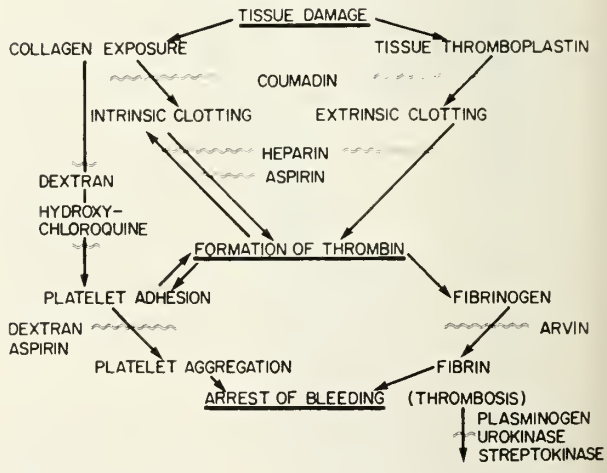


Figure 1. Schematic illustration of the sequential mechanism of hemostasis showing where certain drugs and agents interfere with the mechanism.

TOTAL HIP REPLACEMENT

AGENT	NO.	HEMATOMA	THROMBO-PHLEBITIS	PULMONARY EMBOLUS	DEATHS
COUMADIN	110	7	2*	1≠	0
COUMADIN AND DEXTRAN	18	5	0	2≠	0
COUMADIN AND HEPARIN	10	2	1*	0	0
DEXTRAN	6	1	0	0	0
COUMADIN, DEXTRAN AND HEPARIN	5	2	0	0	0
HEPARIN	1	1	0	0	0
TOTAL	150	18	3	3	0

* CLINICAL EVIDENCE ONLY
≠ DIAGNOSIS BY CLINICAL EXAM, BLOOD GASES, AND LUNG SCAN

Figure 2. Experience with "prophylactic" anticoagulation in 150 consecutive total hip replacement procedures.

but its efficacy has not been proven. Another agent, hydroxychloroquine (Plaquenil), is known to be effective in preventing platelet adherence to the vascular wall and is being investigated as a prophylactic drug to prevent venous thrombosis.[8]

All of these drugs are relatively contraindicated in patients with peptic ulcer disease, blood dyscrasias, and head, spine, or major vascular injury. They are also contraindicated in a patient who has demonstrated hemoptysis, gross hematuria, or previous cerebral hemorrhage.

There are several agents which are known to lyse thrombi once they are formed. These are plasminogens, streptokinase,[28, 29] and urokinase. They are being investigated, but at the present time are either too expensive to produce or cause a high incidence of untoward reactions. The active fibrin destroying principle of a Malayan pit viper venom (Arvin) is also being studied for possible use in the treatment of thromboembolic disease.[3]

Total Joint Replacement

Since the inception of total joint replacement program at KUMC, we have employed some form of prophylactic anticoagulation in patients undergoing these procedures, because they are considered high risk cases for thromboembolic disease. We have accumulated data on the first 225 consecutive patients, which includes 150 total hip replacements *(Figure 2)* and 75 total knee replacements *(Figure 3)*. Three of these patients (1.3%) have had pulmonary embolism, as documented by clinical evaluation, blood gas determinations, and isotopic lung scanning. Four patients (1.8%) have demonstrated venous thrombosis as determined by clinical examination only. There have been no deaths or infections in this series.

TOTAL KNEE REPLACEMENT

AGENT	NO.	HEMATOMA	THROMBO-PHLEBITIS	PULMONARY EMBOLUS	DEATHS
COUMADIN	71	3	1*	0	0
COUMADIN AND DEXTRAN	4	0	0	0	0
TOTAL	75	3	1	0	0

*CLINICAL EXAM ONLY

Figure 3. Experience with "prophylactic" anticoagulation in 75 consecutive total knee replacement procedures.

Our current drug of choice is Coumadin, which is administered immediately postoperatively, and then according to prothrombin times which we attempt to keep from one and one-half to two times normal value. In certain cases, where the patient is a particularly high risk, such as with previous involvement of thromboembolic disease, heparin or low molecular weight dextran is employed in addition to Coumadin. The only bleeding problems encountered were wound hematomas in 21 of 225 patients (9.3%). All of the hematomas have resolved without major consequences. We also employ prophylactic anticoagulation in other high risk patients with hip fractures and multiple extremity fractures, who will be in bed for prolonged periods of time.

Conclusion

Thromboembolic disease ranks among the most common and dangerous complications in patients who have sustained trauma or who are undergoing major operative procedures. Unless there are specific contraindictions, attempts at prevention through physical means and prophylactic anticoagulation should be employed.

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(Continued on page 542)

Extending Visual Examination

Fiberoptic Colonoscopy

N. S. MANN, M.D., F.A.C.P., A. J. SACHDEV, M.D., *and* J. F. ROSE, M.D., *Louisville, Kentucky*

FIBEROPTIC colonoscopy is a major advance in the diagnosis and treatment of diseases of colon and rectum. The technological sophistication of available instruments allows satisfactory examination of the colon to cecum and even the terminal ileum. Colonic polyps can be excised by using an electrocoagulating snare introduced through the biopsy channel. Here we report our experience with 100 patients examined by the fiberoptic colonoscope manufactured by American Cystoscope Makers Inc. (A.C.M.I.).

Method

We studied 100 patients, all inpatients at V.A. Hospital Topeka, V.A. Hospital Louisville, or Louisville General Hospital. An informed consent was obtained before doing the procedure. There were 93 men and 7 women. Record was kept of the total time required to complete the procedure. All the procedures were performed under fluoroscopic monitoring except in two cases. A record was kept of the fluoroscopy time required for the procedure. Fluoroscopy was used sparingly at crucial points during the procedure.

The patients were put on 2500 calorie Warren-Teed low residue diet for 52 hours before the procedure, and were given two cleansing saline enemas on the day of the procedure. Demerol 75 mg and atropine 0.4 mg were given intramuscularly one-half hour before the procedure. Patients were mildly sedated with intravenous Valium.

The instrument used was A.C.M.I. F9-L fiberoptic colonoscope, which has a working length of 165 cm. The light source used was FCB 1002 for both routine examination and still photography. The details of the camera used have already been described.[1] Wherever indicated, a biopsy of the lesion was obtained by the biopsy forceps supplied by manufacturer.

The patient was put in the left lateral position with the hips flexed on the fluoroscopy table; the lower end of the colonoscope was lubricated with viscous xylocaine. An assistant moved the instrument back and forth as requested by the endoscopist, and the length of the colonoscope was continuously lubricated with viscous xylocaine as it was introduced. After the sigmoid was negotiated, the patient was put on his back. Air insufflation was used as necessary, but overdistention was avoided. The colonic lumen was kept in view when possible, however, sometimes the instrument was advanced using the principle of "mucosal slide-by."[2, 3] Sigmoid straightening, alpha maneuver (Tajima), and hooking—lifting—telescoping were all used as necessary to introduce the instrument up to the cecum.[4-7] No external or internal stiffeners were used. More thorough evaluation of the colon was carried out while withdrawing the instrument. Polypectomy was performed in seven patients using A.C.M.I. Wappler electrosurgical unit (# C-350). Carbon dioxide was not used during polypectomy.

Results

It was possible to reach the cecum in 74 per cent of the cases; mid transverse colon could be reached in 86 per cent. The total time required for the procedure ranged from 20 to 70 minutes, with a mean of 36 minutes. The fluoroscopy time required ranged from 3 to 10 minutes, with a mean of 5 minutes. The lesions found on colonoscopy are depicted in *Table I.* There was no mortality from the procedure. There were two perforations; both perforations occurred in the sigmoid in the two patients who were being examined without fluoroscopy. One of these patients had extensive diverticulosis of the sigmoid. The procedure did not cause colonic bleeding in any patient.

TABLE I

LESIONS SEEN ON FIBEROPTIC COLONOSCOPY
100 Examinations

Normal	43
Polyps	24
Carcinoma	8
Ischemic Stricture	3
Ulcerative Colitis	5
Granulomatous Colitis	4
Diverticulosis	13

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This study was supported by the V.A. Research Service.

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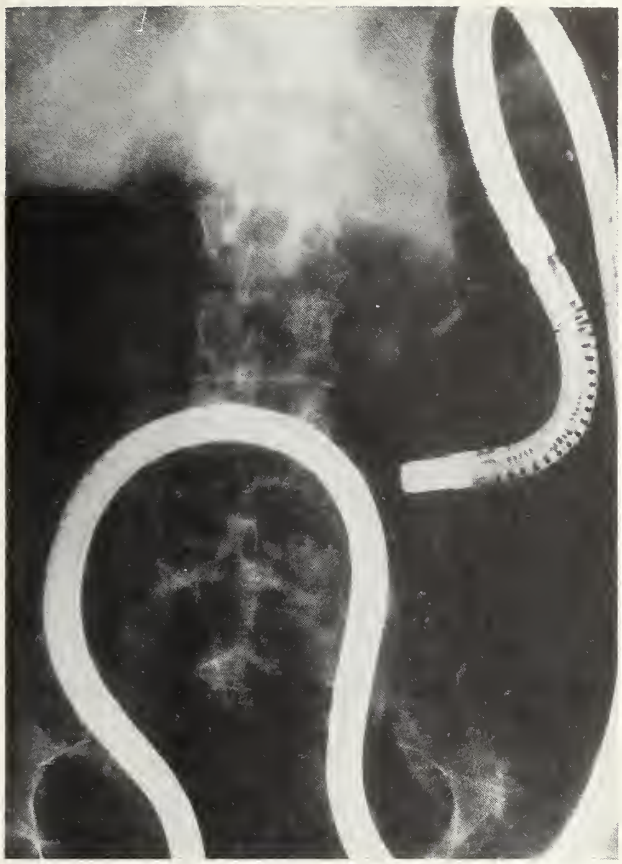


Figure 1. The tip of the colonoscope in distal transverse colon.

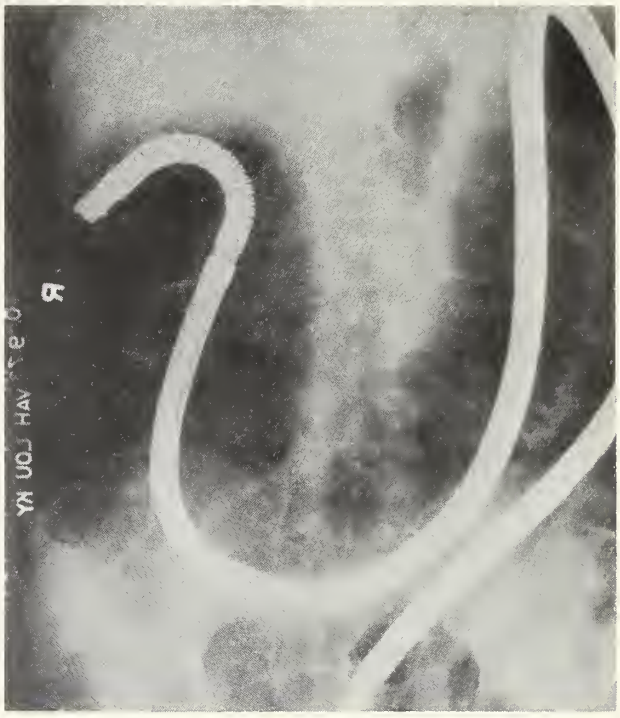


Figure 2. The tip of the colonoscope beyond the hepatic flexure in the ascending colon.

Discussion

The development of the fiberbundle, based on principle of fiberoptics, resulted in the use of long fiberscopes for examination and evaluation of the internal organs. The polydirectional tips and other technical improvements in the instruments allowed visualization and biopsy of the lesions in the cecum and the terminal ileum. Snare polypectomy technique was introduced for safe removal of colonic polyps.[8]

Compared to fiberoptic esophagogastroduodenoscopy, fiberoptic colonoscopy is considerably more difficult and requires experience and patience. The shape and length of colon shows extreme variation from patient to patient, and extreme variations in the redundancy of sigmoid makes it difficult to evaluate the extent of insertion of the instrument. With our regimen, the preparation of the colon was uniformly satisfactory. Many schedules for preparation of the bowel for colonoscopy have been presented.[4, 9-11] A clear liquid diet for two-three days before the procedure may be adequate, but elemental diet has been recommended by some endoscopists. We used a commercial low residue diet. Cleansing saline enemas a few hours before the procedure are helpful.

Some endoscopists use no analgesic or amnestic medication,[12] but extensive reviews of the literature on colonoscopy[5, 13] show that majority of endoscopists prefer pre-



Figure 3. The tip of the instrument in the cecum.



Figure 4. Endoscopic view of the transverse colon; note the triangular lumen.



Figure 5. Carcinoma of the descending colon.

medication to make it a more tolerable procedure. We used Demerol and Valium in our study. However, oversedation should be avoided so that patient should be capable of recognizing pain.

As already mentioned, various maneuvers were used to accomplish the passage of the instrument into the splenic flexure. The details of these maneuvers are well described in the review articles.[4, 5, 13-15] Various devices, such as the external sheath stiffener or an internal wire stiffener, have been used[16] to maintain a straightened sigmoid colon and to facilitate the intubation of the ascending colon. We did not use any stiffening device. Complications, such as damage to the instrument or perforation of the bowel wall caused by the stiffeners, have been mentioned.[13]

Time required to perform the procedure has been reported to vary between 30-60 minutes;[5] our mean time was 36 minutes. Our success rate of 74 per cent of reaching the cecum is similar to that reported in literature.[5] It is the general consensus that fluoroscopy is required when the tip of the colonoscope is in certain areas of colon, *e.g.,* sigmoid, splenic and hepatic flexures; with increasing experience fluoroscopic time can be reduced. The mean fluoroscopy time in our study was five minutes. Some colonoscopists perform the procedure without fluoroscopy.[13] We feel fluoroscopy makes the procedure safer; both perforations in our study occurred while the procedure was being performed without fluoroscopy.

Colonscopic polypectomy has revolutionized the treatment of colonic polyps[4, 8, 11, 18] by reducing the expense, morbidity, and mortality. Polypectomy is carried out by discharging a cutting and coagulating current on the insulated snare looped around the stalk of the polyp. Care



Figure 6. Large polyp in the transverse colon.



Figure 7. Polyp in the cecum; note the polyectomy snare around the base of the polyp.

should be taken that the polyp should not be touching the opposite colonic wall otherwise perforation due to burn may occur. After the polyp has been excised, it can be sucked out along with the instrument or removed with a polyp retriever. A dual channel instrument, which allows the passage of polyp retriever at the same time as the polypectomy snare is being used, has been recently introduced; it will facilitate the procedure of polypectomy. The principles of electrosurgery should be thoroughly studied by the colonoscopists.[19] There is difference of opinion regarding the use of a nonexplosive gas, such as CO_2, to eliminate the hazard of explosion due to combustible colonic gases during electrosurgery. The administration of CO_2 apparently is well tolerated even by patients who have moderate chronic obstructive pulmonary disease. There has never been an explosion reported with colonoscopic electrosurgery, and some authors do not use CO_2 because the large volumes of room air dilute the combustible gases to such an extent that explosion is unlikely. If the colon is well prepared, the concentration of combustible gases in the colon is much reduced. We did not use CO_2 in our study. The colonoscope can be used during surgery to locate the polyps and bleeding lesions, such as telangiectasia and arteriovenous malformations. Foreign bodies from colon can also be removed by colonoscopy.

The indications for diagnostic colonoscopy include confirmation of roentgenographic findings, evaluation of

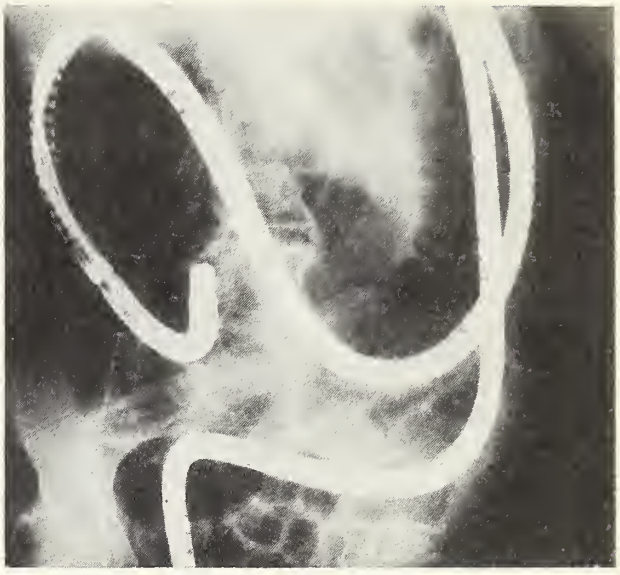


Figure 8. The tip of the instrument past the ileocecal valve in the terminal ileum.

lower gastrointestinal bleeding, and to obtain a tissue diagnosis in cases of carcinoma of the colon. Complemented with barium enema examination, colonoscopy is likely to result in an earlier diagnosis of malignant and premalignant lesions of the colon, and possibly a higher cure rate.[20] It has been found that roentgenographic examination alone underestimates the extent and severity of chronic ulcerative colitis, and that colonoscopy should complement the examination in cases of inflammatory bowel disease. However, colonoscopy is contraindicated during acute exacerbation of ulcerative colitis or fulminant granulomatous colitis.

Other conditions which have been studied by means of fiberoptic colonoscopy include irritable bowel, ischemic bowel disease, radiation colitis, pneumatosis cystoides coli, melanosis coli, pseudomembranous enterocolitis, amebic colitis, and tuberculosis. As already mentioned, contraindications to fiberoptic colonoscopy include fulminant ulcerative and granulomatous colitis, acute diverticulitis, extensive diverticulosis, severe ischemic bowel disease, severe radiation colitis, pregnancy, peritonitis, and abdominal aortic aneurysm.

The complications of fiberoptic colonoscopy are: bleeding, perforation, retroperitoneal emphysema, tear of the mesosigmoid and serosal tear of the sigmoid colon. In a recent survey,[5] rate of perforation for diagnostic colonoscopy was 0.2 per cent and 0.9 per cent for bleeding. Colonoscopic polypectomy caused a perforation rate of 0.32 per cent and 1.7 per cent bleeding problems; the overall incidence of all complications was 0.35 per cent. In the present study there were 2 perforations but no other complications were seen; there was

no mortality. No complications occurred in patients in whom colonoscopy was performed with fluoroscopy.

Summary

Fiberoptic colonoscopy was performed on 100 patients. The endoscopic findings are summarized in *Table I.* The cecum could be reached in 74 per cent of the cases and transverse colon in 86 per cent. The mean time required to perform a procedure was 36 minutes, and the mean fluoroscopy time was 5 minutes. The pertinent literature has been reviewed.

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(Continued from page 537)

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Asthma

Treatment and Dangers

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THE DECADE of 1960-1970 witnessed an upsurge in demand for respiratory care in America. The heavy-smoking veterans of two wars passed into middle life, and chronic obstructive pulmonary disease (COPD) showed an annual incidence rise which surpassed all other disease processes. Demands for respiratory assistance became more frequent; mechanical ventilators were developed nearly to their present state of refinement, and respiratory therapy came to maturity as a health care profession. Therapists had formerly given oxygen, airway care and chest physiotherapy, and now were entrusted with continuous ventilatory management. As the scope and sophistication of their knowledge increased they were asked to administer bronchodilators by aerosol, a task for which they had hardly been prepared by training or experience. Two drugs in particular, epinephrine and isoproterenol, were placed in their hands, often under circumstances designed to invite disaster.

The increased mortality from asthma in the 1960s, now well documented,[1] fortunately did not involve hospitalized patients to a major degree. Most catastrophes resulted from the following circumstances:

1. Unrestricted self-medication with beta-adrenergic bronchodilators, with overdose and fatal tachyarrythmia or ventricular fibrillation;

2. Similar occurrences due to sensitization of the myocardial conduction network by fluorocarbons (Freons) employed as propellants in pressurized containers of beta-adrenergic solutions;[2, 3]

3. Paradoxical exacerbations of bronchoconstriction aggravated by bronchodilators and progressing to status asthmaticus.

Since the hazards of unrestricted use of pressurized bronchodilator aerosols have been widely publicized, the occurrence of myocardial sensitization has greatly diminished. The problems of overdose and treatment failure remain, however; they are closely linked, and are worthy of closer examination.

Failure of Therapy

Severe bronchiolar obstruction may cause rapid failure of gas exchange, particularly oxygen diffusion.[4] Hypoxia may be acutely life-threatening, requiring bronchodilation to restore alveolocapillary oxygen delivery. Reestablishment of airway patency by relief of smooth muscle spasm, mucosal decongestion, and consequent mobilization of mucus increases diffusion area, and reduces thickness of the alveolocapillary barrier. Beta-adrenergic drugs judiciously administered by aerosol may be of immediate benefit, and their toxic effects on the heart will be minimized if oxygen uptake and carbon dioxide removal are improved.

Where ventilation-perfusion imbalance is a primary cause of hypoxia the bronchodilator drug may offer little therapeutic gain.[5] Although airway obstruction is relieved, the arterial PO_2 may decline further. Where atelectasis or pneumonic consolidation results in appreciable shunting, there is little reason to expect a salutary effect from bronchodilation unless mucus plugs can be dislodged to allow some restoration of expansion.

Epinephrine and congeners reduce bronchial secretion, which may increase plug formation unless the patient is well hydrated. Probably this is the major cause of treatment failure in acute asthma. However, the occasional case is reported where bronchodilation does not occur on administration of beta-adrenergic drugs. It may be necessary to give adrenocorticosteroids intravenously to interrupt the asthmatic cycle. This condition, termed status asthmaticus, is considered further below. If mucosal inflammation is the major cause of obstruction the response may be disappointing. Many cases diagnosed as status asthmaticus in children could more accurately have been reported as bronchiolitis. Here steroids may be helpful, but definitive treatment should be directed to control of causative organisms with antimicrobials. Purely beta-adrenergic drugs, such as isoproterenol, are vasodilators, and are contraindicated where mucosal congestion is predominant.

All beta-adrenergic bronchodilators exhibit tachyphylaxis to a greater or lesser degree. This is particularly striking with the catecholamines, where the third or fourth dose of a series administered at 10-15 minute intervals may be totally ineffective. Generally, bronchial relaxation is most marked when the preexisting smooth muscle tone is high; after this peak effect is achieved

further drug administration will be attended by rapidly diminishing returns.

Actual exacerbation of asthma has been reported following the use of epinephrine or isoproterenol, a condition termed "locked lungs." Doubtless, progressive mucus plugging is contributory in many instances; however, a more ominous factor is the development of pulmonary edema secondary to drug overdose.[6] Cardioacceleration progressively shortens diastolic filling time, with eventual rise in left atrial pressure, pulmonary capillary congestion, and edema. Acute tachyarrhythmias may precipitate such a crisis with alarming suddenness. Overdose is also accompanied by hyperpnea of central origin, promoting air-trapping, augmenting respiratory work, and greatly increasing dyspnea. To the extreme distress of labored breathing is added the likelihood of anginal pain.

Indications

It may be pertinent at this point to review the common errors associated with the use of drugs. Perhaps the most common is employment of a drug where pharmacotherapy is not indicated at all. This has so frequently been the case with bronchodilators that some of the following discussion is devoted to signs and tests which properly identify the asthmatic or bronchitic patient in whom expected benefits outweigh the risks.

Overdose is another error associated with injudicious employment of bronchodilators. This occurs most often where the initial treatment is ineffective and subsequent attempts are made with increasing doses. While the therapeutic response continues to be disappointing, side actions escalate progressively, over-stressing the heart and circulation and augmenting psychomotor irritability.

Safe use of bronchodilators is predicated on: (1) their employment only on proper indication; (2) avoidance of overdose; (3) prompt recognition of ineffective therapeutic action or toxic manifestations; and (4) objective proof of patient benefit, by spirometric or blood gas determinations before and after treatment.

The dyspnea or sense of suffocation caused by bronchospasm is extremely variable, conditioned to a major degree by psychogenic factors. For this obvious reason, there can be no accurately measurable indices of respiratory function which reflect the need for a bronchodilator. Nevertheless, forced expiratory volume in one second (FEV_1) and peak flow values should be estimated if possible where indications are equivocal. Unnecessary exposure to a potentially toxic drug may be avoided, and if its administration is decided upon a baseline is established from which benefits can be more accurately assessed. Bedside tests are discussed more fully in the following section.

A pitfall associated with the treatment of asthma is the confusion of wheezing with bronchospasm. Often they coexist, but it must be remembered that wheezes are produced by airflow through patent, though partially obstructed, bronchioles. Tight bronchospasm or widespread mucus plugging may be attended by little auscultatory evidence, and the first manifestation of airway reopening may be increased wheezing. Also it must be remembered that inhalation of aerosol mist itself increases resistance to flow, since the addition of droplets confers a large increase of density. A common clinical observation following expulsion of mucus plugs is profound relief of dyspnea, with relatively little change in wheezing pattern. The efficacy of treatment can often be demonstrated with serial blood gases after airway clearance has been achieved.

Evaluation

The following procedures can be done quickly with ordinary technical expertise, and with portable equipment.

Accurate serial volume estimates can be obtained with the Wright respirometer, a small sensitive anemometer, which although delicate and somewhat expensive, is a valuable adjunct. Since it really measures flow, the movement of the indicator needle can be carefully observed, and tidal patterns as well as volumes can be noted. The respirometer can be used together with a stopwatch, to plot rough ventilation curves in patients with obstructive disease. The instrument should never be used for measurements of forced expiratory flow, since high pressures will damage the mechanism.

Flow rates can be quickly assessed by having the patient exhale forcefully into ordinary breathing bags of graduated sizes, measuring the filling times with a stopwatch. The average adult patient should be able to fill a 3-liter bag in one second. If he is unable to do so, the test is repeated with a 2-liter bag. An FEV curve can be drawn from these simple observations, which is satisfactory for clinical purposes and can be recorded as a rough diagram on the patient's chart.

Forced expiratory time can be estimated by auscultation over the trachea. The stethoscope bell is placed just above the suprasternal notch and the patient instructed to inhale deeply, then exhale as quickly and completely as possible. Normally, little is heard beyond one or two seconds; the airways are significantly obstructed if there is audible air movement beyond four or five seconds. This test is particularly valuable to assess the response to bronchodilators.

Improvement in peak flow can be verified with a Wright peak flow meter, which is a bit too large for

easy portability; or a De Bono whistle, which fits easily in the jacket pocket but is less accurate.

A negative pressure Bourdon gauge can be utilized to obtain an estimate of diaphragmatic strength and work of breathing. Normal inspiratory pressures should exceed 30-40 torr. Expiratory pressures can be measured with an ordinary blood pressure sphygmomanometer fitted with a mouthpiece.

These tests are designed to assess: (1) the extent of obstruction to flow, the expectations, and the results of bronchodilator treatment; (2) the adequacy of ventilation, in terms of tidal exchange and vital capacity; and (3) the ability of the patient to perform the required work of breathing without progressive exhaustion.

Clinical Use of Aerosol

The immediate need for bronchodilation is the principal indication for administration by aerosol. However, systemic absorption from mucous surfaces is rapid, approaching the serial blood values which would be obtained following intravenous administration. Although relatively small doses are required, only 5-10 per cent of the aerosolized drug reaches the site of action. Some is absorbed from the pharynx and may contribute to cardiac and central nervous system toxicity. Doubtless, the occurrence of undesirable effects following aerosol administration is due in large part to drug which is swallowed. Rinsing the mouth is a useful routine following the aerosol treatment. Dosage ranges are wide, particularly in the case of catecholamine derivatives, whose duration of action is short. Tachycardia and tachyarrhythmia must be avoided by constant attention to pulse rate and volume. ECG monitoring is essential in the patient with an irritable heart. Every effort must be made, through FEV_1 or peak flow measurements, to demonstrate beyond reasonable doubt the efficacy of treatment.

Self-administration of the bronchodilator by hand-held nebulizer, under supervision of the therapist, offers some protection against overdosage. If the patient is alert he usually is immediately aware of cardioacceleration, and will complain of palpitation, particularly if rhythm is disturbed. Also, he will sense the beginning of angina resulting from increased myocardial work. These occurrences are sufficiently uncomfortable to give him pause, and further inhalation of drug is suspended. By contrast, intermittent positive pressure administration by mask places a burden of responsibility on the therapist, to avoid relentless continuance of uptake beyond safe limits. If the patient is irrational or obtunded special vigilance must be observed. Although solicitous inquiry can be overdone, it is important that the therapist be aware of the incipient signs of discomfort arising from beta-adrenergic effects on the heart.

Recommended Treatment

Acute episodes of asthma are usually relieved within 5 minutes following a few breaths of nebulized racemic epinephrine (1%), isoproterenol (0.5-1%), metaproterenol (5%), or isoetharine (1%) with phenylephrine (0.25%) (Bronkosol).[7] Maximal expiratory flow and vital capacity are restored to normal values. However, ventilation-perfusion imbalances are not corrected and PaO_2 may be unimproved. Treatments may need to be repeated at 5-minute intervals until relief is obtained.

Alternatively epinephrine 0.2 to 0.5 mg can be injected subcutaneously, and its absorption hastened by massage. This can be repeated at 15-20 minute intervals without cumulative effect, but tolerance is rapidly acquired, and the dose may need to be increased. Administration of intravenous infusions containing epinephrine is hazardous, and is no longer recommended. Aminophylline 0.5 gm may be given slowly in 10-20 ml of normal saline intravenously, or in 500 ml infusion by drip.

A severe attack requires not only immediate bronchodilator therapy but also oxygen and occasionally continuous mechanical ventilation. Adequate hydration with intravenous fluids is essential for mobilization of secretions. Intermittent positive pressure breathing with isoproterenol (0.5 ml 1:200) 15 minutes every hour may be necessary. Oxygen 6-12 L/min by mask or cannula is essential.

The bronchodilator effects of beta-adrenergic drugs are diminished by acidemia. If pH values fall to 7.2 or below, sodium bicarbonate (1.5 mEq/kg/hour) can be given by infusion.

Status Asthmaticus

This connotes a condition of continuous severe asthma which is unrelieved by epinephrine or isoproterenol; it can be a life-threatening emergency.[8,9] Failure to respond to beta-adrenergic drugs may be due to a number of causes, such as obstruction due to mucosal edema or accumulation of viscid mucous plugs. Oxygen, mechanical ventilation, and ample hydration are administered as in any severe asthmatic episode. Aminophylline may be useful, but should not be administered in dosage greater than 0.5 gm/hr. Corticosteroids offer the greatest benefit, but their onset of action is slow. Hydrocortisone sodium succinate (Solu-Cortef) 100 mg or methylprednisolone (Solu-Medrol) 80 mg should be given intravenously, and may be repeated every 30-60 minutes as needed. If epinephrine or isoproterenol are demonstrably

ineffective they should be discontinued. Overdosage of beta-adrenergic agents may provoke severe cardiac arrhythmias where the heart is asphyxic and hyperirritable.

Pharmacologic Treatment of Arrhythmias

Where the heart is hyperirritable, as is often the case with patients who require bronchodilators, dangerous cardioacceleration may ensue. Commonly, ectopic foci arise in the ventricular network, precipitating first premature ventricular contractions (PVCs), which may progress to ventricular tachycardia and ventricular fibrillation.

Local anesthetic drugs, usually procainamide (Pronestyl) or lidocaine (Xylocaine), may be indicated to reduce myocardial oversensitivity to beta-adrenergic drugs. Procainamide is administered in 100 mg/min doses, with a maximum dose of 1 gm. Lidocaine is given in approximately half these amounts (50 mg/min to 0.5 gm). The principal toxic side effects are hypotension (gangliolytic), which may occasionally be profound at ordinary dose levels, and central nervous system stimulation, which is much less common. Psychomotor irritability may be observed, with appearance of tremors or convulsive seizures. Oxygen by mask or cannula is an important adjunct. Should ventricular fibrillation occur, direct current countershock must be immediately administered, accompanied by serial doses of local anesthetic to prevent its recurrence.

Summary

Respiratory therapists administer beta-adrenergic bronchodilators by aerosol on order from the physician. To minimize risks associated with the cardiotoxic effects of these drugs the following precautions should be observed: (1) employment only on proper indication; (2) avoidance of overdose; (3) prompt recognition of ineffective therapeutic action or toxic manifestations; and (4) objective proof of patient benefit, by spirometric or blood gas determinations before and after treatment.

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Vox Dox

Vox Dox Editor:

I am writing a biography of Dr. Alton Ochsner of Ochsner Clinic, New Orleans. I welcome opinions, evaluations, anecdotes, reminiscences, and photos that may be available. Photos will be carefully handled and returned. All material will be gratefully received by me.

Ira Harkey, PhD
401 Metairie Road, 706
Metairie, LA 70005

$1,000 POETRY PRIZE

A grand prize of $1,000 is being offered in a new poetry competition sponsored by the "World of Poetry," a monthly newsletter for poets. In addition, there are 49 cash and merchandise awards.

Says Poetry Editor Eddie-Lou Cole, "We hope to encourage new poets—even poets who have written only one poem."

For rules and official entry forms write to: World of Poetry, 801 Portola Dr., Dept. 211, San Francisco 94127.

Emergency Medical Service

Transfer Agreements

As is obvious because of frequency or lack of frequency of specific medical problems, it is not economically feasible for all hospitals in the state to provide in-depth patient care in all areas. Kansas physicians have long recognized this and have already established their own patient referral patterns. These referral patterns have built up over several years with the physicians' knowledge of the medical facilities and the staff of the hospitals to which they are referring patients. Transfer agreements are nothing more than written documents which attest to that existing system.

If such arrangements already exist, why is there a need for transfer agreements? What is wrong with the present system? There is nothing wrong with the present system and transfer agreements will in no way change. They will simply indicate on paper what these transfer patterns are. It may well be that not all transfer patterns are in the same direction. For example, a severely burned patient in Western Kansas may be transferred to Denver; whereas a patient with severe multiple trauma might be transferred to Dodge City or Garden City. This is what horizontal categorization, as described in September in this space, is all about.

We need in Kansas (just as in the rest of US) an EMS system. We already have a system. But what is that system? What are its limits? It may be that there are inadequacies in our system; it may be that there are not —but until the entire system is put down on paper, these deficiencies cannot be identified. Of what benefit will this be to our patients? It may be, for example, that, again in Western Kansas, a certain type of burn is being referred all the way to Denver which could easily be handled in Garden City. Appropriate referral of patients to a closer facility (provided that both facilities have the same capabilities) would then, of course, provide better patient care.

As can be seen in *Figure 1,* a flow chart can then be devised according to the transfer agreements which will

This is the fourth in a series of articles to acquaint the practicing physicians in Kansas with what Emergency Medical Services (EMS) is and what it means to the physician in his continuing quest to provide quality care for his patients. This month's installment was written by William R. Truitt, M.D., Director of Emergency Medical Services, St. Francis Hospital, Topeka, KS 66606.

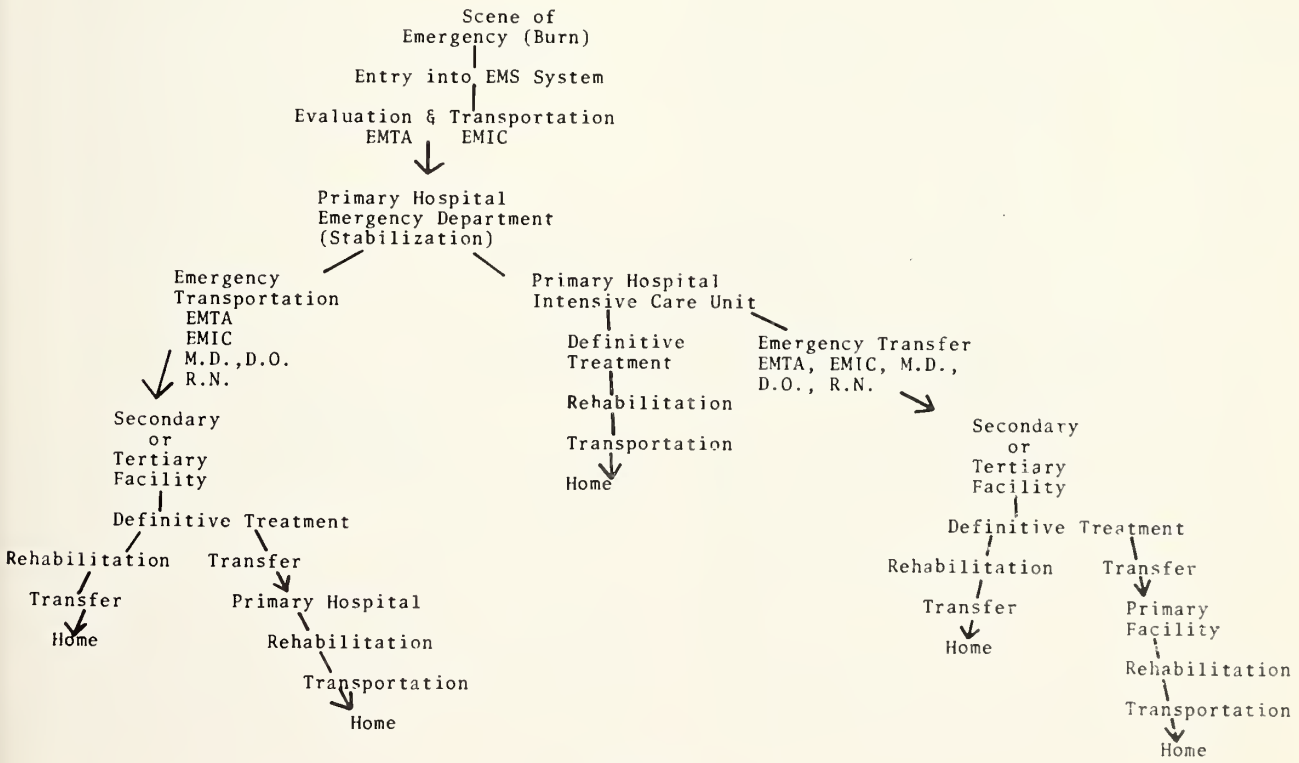


Figure 1

not only provide a diagrammatic presentation to the existing medical community but, as the medical community and particularly the EMS system grows, the information will be readily available.

Two major benefits to patient care will be: (1) the physician will be better able to identify alternative routes of referral if his usual route breaks down for some reason; and (2) relationships can be developed between referring physicians and hospitals so that patients can be transferred back to the originating hospital to complete their convalescence, rather than remaining in the secondary or tertiary facility until they are ready to return home. This has the advantage of allowing more bed space in the secondary and tertiary facilities and also allows the primary care physician closer contact with his patients and earlier active involvement in their recovery.

These are but two possible benefits to a well organized EMS system. As has been stressed by Dr. David Boyd (Director of the Emergency Medical Services Program, HEW) and many other members of HEW, the EMS system is NOT designed to change present patient flow patterns. Rather, it is designed around present patient flow patterns to make the system function more smoothly.

Figure 2 is a sample of a transfer agreement which is being utilized at the present time in Nebraska. Such a document, or a similar one, is needed in Kansas—again, not to force changes, but to stimulate organization.

WORKING DRAFT

(This draft is suhject to change)

One suggested format for Transfer Agreement. (This should be typed on local hospital letterhead)

TO: _____ Hospital

I, _____, President of the Medical Staff offer agreement with our physicians to provide care for patients with these specific categories of emergency diseases when transferred upon request of the patient's physician.

This transfer agreement is developed to meet the requirements of PL 93-154 and our requirements under the EMS program. We expect it to stimulate the standardization of records, information exchange and training as well as to help with the improvement in local care by appropriate feed-back to our hospital.

Signed _____
President of the Medical Staff

This is to certify that _____ Hospital, which has advanced care capability in the signed areas, will provide care for patients in those specific categories signed below when such transfer is requested by the local physician.

Trauma _____ Chief

Burns _____ Chief

Cardiac _____ Chief

Neurosurgery _____ Chief

Neonatal _____ Chief

Behavorial _____ Chief

Poison _____ Chief

* The attached letter, signed by both parties, specifies the categories of patients that can be transferred.

Figure 2

"THE KANSAS DOCTOR"

The Kansas Doctor is available! This book is a delightful historical account of medicine in Kansas. Orders are being taken by the AMA-ERF chairmen:

Mary Ruth Yulich
2106 Chester Ct.
Kansas City, KS 66106

OR

Caryl Bichlmeier
6110 West 65th St.
Mission, KS 66202

DES Exposure *in Utero*

(Ed. Note. The information here presented was compiled by the Division of Cancer Control and Rehabilitation, National Cancer Institute, and by the Office of Cancer Communications, NCI, National Institutes of Health, Department of Health, Education, and Welfare. Information sheets suitable for distribution to patients, as well as information sheets directed toward physicians, are available through the office of the Director, National Cancer Program, National Institutes of Health, Bethesda, MD 20014.)

The National Cancer Institute is supporting a study of vaginal cancer and other noncancerous genital tract irregularities in offspring of mothers who received synthetic estrogens during pregnancy. The study seeks to provide answers concerning the risk to exposed offspring born after 1940 of developing cancer, or other medically important conditions, including vaginal adenosis and cervical abnormalities.

Each of the four participating institutions is identifying 500 or more subjects with documented *in utero* exposure. Exposed daughters of different ages are being examined and followed to determine incidence and natural history of vaginal adenosis and other irregularities.

Institutions participating in this study, and the principal investigators, are:

Massachusetts General Hospital
Harvard Medical School
Boston, Massachusetts
Dr. Ann Barnes and Dr. Stanley J. Robboy

University of Southern California
Los Angeles, California
Dr. Duane E. Townsend

Baylor College of Medicine
Houston, Texas
Dr. Raymond H. Kaufman

Mayo Clinic
Rochester, Minnesota
Dr. David G. Decker

The Mayo Clinic coordinates the efforts of the institutions participating in the National Cancer Institute study. Dr. Leonard T. Kurland, Chairman of the Department of Epidemiology and Medical Statistics at Mayo, directs the study's National Coordinating Center.

Project Director at the National Cancer Institute, Division of Cancer Control and Rehabilitation, is Dr. Mary Ann Sestili, Room 6A07, Blair Building, 8300 Colesville Road, Silver Spring, Maryland 20910. Telephone number is (301) 427-7477.

What Is Diethylstilbestrol (DES)?

DES (Diethylstilbestrol or stilbestrol), a synthetic estrogen-type hormone, was first synthesized in the late 1930s. During the 1940s many physicians throughout the United States and other countries prescribed this substance for pregnant women. Several studies suggested that in complications of pregnancy such as bleeding, threatened miscarriage or diabetes, this treatment improved salvage of the fetus.

Although its use in pregnancy has been discontinued DES remains a useful agent for certain menopausal symptoms, certain cases of carcinoma of the breast and prostate, and a few other clinical problems. (A list of DES-type drugs appears at the end of this article.)

Why Were DES-Type Drugs Used in Pregnancy?

Nearly one pregnancy in five results in spontaneous abortion. Various studies suggested that DES-type drugs given to women likely to have miscarriages decreased the incidence of abortion. Additional investigation indicated that pregnant women with more than one prior miscarriage, diabetes, or toxemia of pregnancy could also benefit from DES administration. These findings were widely publicized during the 1940s and 1950s, and prenatal administration of DES-type drugs was extensive.

Later studies disclosed that the administration of DES during pregnancy was less effective than initially thought. Additional clinical research and development of newer compounds gradually diminished their use.

In 1971, Drs. Arthur L. Herbst, Howard Ulfelder and David Poskanzer, at Massachusetts General Hospital and Harvard Medical School, reported a link between maternal DES therapy during pregnancy and the later occurrence of clear-cell adenocarcinoma of the vagina in female offspring exposed to the drug *in utero*. This initial report was soon confirmed by others.

Soon after the discovery of the initial cases, a Registry of Clear-Cell Adenocarcinoma of the Genital Tract in Young Females was established by Dr. Herbst and Dr. Robert E. Scully, with support from the National Cancer Institute and the American Cancer Society. It now contains varying amounts of data on almost 300 cases from the United States and abroad. Registry address is MARP, Room 303, 5841 Maryland Avenue, Chicago, Illinois 60610.

The patients have ranged in age from 7 to 28 years at the time of diagnosis.

Documentation of exposure to DES-type hormones has

been established in two-thirds of the fully investigated case histories. Of the vaginal adenocarcinoma cases, more than 80 per cent are known to have been exposed to DES-type hormones.

Because DES-type hormones were not administered to some of the mothers of these cancer patients, factors other than maternal hormone administration also may play a role in the cause of these cancers.

In all cases for which precise treatment dates are available, the drug was initiated before the 18th week of gestation. Dosages and duration of therapy varied widely. However, as little as 1.5 mg DES administered daily throughout pregnancy was found in one case history to be associated with subsequent cancer in female offspring. Administration of the drug in varying amounts for a week or more during the first trimester also was associated with the subsequent development of cancer.

Cancers related to DES-exposure have not been reported in male offspring.

Although the exact number of pregnant women treated with DES or chemically similar compounds during pregnancy is unknown, it has been estimated to be as many as two million. The risk of developing adenocarcinoma in exposed females under 30 years of age appears to be minimal, in view of the large exposed population and the very rare incidence of the disease so far reported. However, as exposed females grow older, the incidence of cancer related to DES-type drugs may change.

Noncancerous Irregularities

Early in their investigation, Dr. Herbst and associates noted that most of the vaginal and cervical cancers in the exposed females were associated with vaginal adenosis (the presence of glandular epithelium in the vagina). Benign adenosis is found histologically in over 97 per cent of vaginal clear-cell adenocarcinomas, whether or not a history of DES-type drug exposure *in utero* is confirmed. Vaginal adenosis is rare in normal (unexposed) young women.

The results of examinations of females exposed *in utero* to DES-type drugs have been reported in several studies. More than a third of those who were exposed in the first four months of gestation have vaginal adenosis, and more than two-thirds have cervical ectropion (the presence of glandular tissue on the portio vaginalis of the cervix).

Other abnormalities seen in these examinations, such as transverse vaginal and cervical ridges, also may be associated with intrauterine exposure to DES-type drugs. These are described by a varity of names—hood, pseudopolyp, rim, collar, cockscomb cervix.

DES-TYPE DRUGS THAT MAY HAVE BEEN PRESCRIBED TO PREGNANT WOMEN

Nonsteroidal Estrogens

Benzestrol
Chlorotrianisene
Comestrol
Cyren A
Cyren B
Delvinal
DES
DesPlex
Diestryl
Dibestil
Dienestrol
Dienoestrol
Diethylstilbestrol Dipalmitate
Diethylstilbestrol Diphosphate
Diethylstilbestrol Dipropionate
Diethystilbenediol
Digestil
Domestrol
Estilben
Estrobene
Estrobene DP.
Estrosyn
Fonatol
Gynben
Gyneben
Hexestrol
Hexoestrol
Hi-Bestrol
Menocrin
Meprane
Mestilbol
Methallenestril
Microest
Mikarol
Mikarol forti
Milestrol
Monomestrol
Neo-Oestranol I
Neo-Oestranol II
Nulabort
Oestrogenine
Oestromenin
Oestromon
Orestol
Pabestrol D.
Palestrol
Restrol
Stil-Rol
Stilbal
Stilbestrol
Stilbestronate
Stilbetin
Stilbinol
Stilboestroform
Stilboestrol
Stilboestrol DP.
Stilestrate
Stilpalmitate
Stilphostrol
Stilronate
Stilrone
Stils
Synestrin
Synestrol
Synthoestrin
Tace
Vallestril
Willestrol

Nonsteroidal Estrogen—Androgen Combinations

Amperone
Di-Erone
Estan
Metystil
Teserene
Tylandril
Tylosterone

Nonsteroidal Estrogen—Progesterone Combination

Progravidium

Vaginal Cream—Suppositories with Nonsteroidal Estrogens

AVC cream with Dienestrol
Dienestrol cream

If the Patient Was Exposed

All asymptomatic girls who were exposed *in utero* should receive a thorough pelvic examination at menarche or if they have reached 14 years of age. Younger girls should be examined if they develop abnormal bleeding or discharge. Whenever prenatal exposure is probable, and there are symptoms of discharge, further investigation is imperative, regardless of the patient's age.

This investigation should not be concluded until it is certain that no lesion is present.

Before the examination is undertaken, the entire procedure should be thoroughly discussed with the patient (and her parent if she is a minor). The examination should include inspection and palpation, Papanicolaou smear (cervix and vagina), and an iodine staining test of the entire cervix and vagina. Abnormal areas, including those that do not stain with iodine, should be biopsied. This procedure can be performed in the physician's office with small biopsy instruments and without significant discomfort.

For the very young patient who has symptoms that require investigation, anesthesia may occasionally be required before an examination. A small speculum permits adequate visualization of the vagina without undue discomfort in younger patients.

With asymptomatic females, if adequate examination is not possible at the initial visit, vaginal tampons should be used for a few months to allow an adequate examination later without discomfort.

Colposcopy is a useful adjunct to this examination, but it is not essential. Utilizing its low power magnification to examine the vagina and cervix, the physician can identify areas of glandular tissue (adenosis) in the vagina or on the cervix. This identification permits directed rather than "blind" biopsies. Used in conjunction with the iodine staining test and selected biopsy, colposcopy permits precise recording of observed abnormalities and their appraisal at fixed intervals.

Followup Examinations

The patient exposed to DES-type drugs should be followed on a regular basis. After a normal initial examination, annual pelvic examinations with cervical and vaginal cytology and iodine staining are probably adequate. If any abnormalities are noted during the initial evaluation, more frequent followup examinations are suggested (every 3 to 6 months, depending on the severity of the findings).

Other Irregularities

Locally destructive measures such as cauterization, cryosurgery, or excision can be utilized if atypical changes such as marked squamous dysplasia or carcinoma in situ of the vagina or cervix are found on biopsy.

Optimal management of nonmalignant lesions in females exposed to DES-type drugs *in utero* is uncertain. At the present time, no case has been reported in which vaginal adenosis has progressed to cancer under direct observation. Careful followup appears at present to be the most prudent approach to DES-exposed subjects without carcinoma.

There is no evidence to date indicating that use of oral contraceptives by the DES-exposed population would be undesirable. However, they add further hormonal variables to a complex situation and are one more aspect of the problem requiring more information.

The presence of adenosis is not a contraindication to future pregnancy if the woman desires to have children.

Cancer Diagnosis and Therapy

The cancers reported in the Registry have been found more often on the cervix or upper anterior vaginal wall than elsewhere. They usually are elevated, soft and friable, with a tendency to invade surrounding tissue early and metastasize through the lymphatic system. The ratio of vaginal to cervical site of origin (classification of the Cancer Committee of the International Federation of Gynecology and Obstetrics) has been approximately 2 : 1.

Decisions regarding mode and extent of therapy in these young women are difficult in themselves, and further complicated by emotionally charged issues. Both surgery and high energy radiotherapy potentially can cure the disease. Cancers associated with DES-type drugs may develop in young women primarily in tissues of Mullerian origin—the upper portion of the vagina and the cervix.

Treatment should be highly individualized and is best accomplished by physicians experienced in treating gynecologic cancers.

Letters to VOX DOX should be addressed to the Vox Dox Editor, Journal of the Kansas Medical Society, 1300 Topeka Avenue, Topeka, Kansas 66612.

WEIGHT LOSS IN WRESTLERS

Wrestling is one of the few sports sanctioned by scholastic and collegiate athletic groups that regulate competition by body weight classes. Under current rules, individuals must be certified for specific weight classes by "weighing in" at designated time periods, usually several days before the season begins or a few hours before a match is to start.

Most participants believe their chances for success are better at lower body weight classes, therefore, the loss of body weight before competition has become a universal and accepted practice by wrestlers. Numerous studies have shown that high school and collegiate wrestlers will lose between 3-20 per cent of their body weight in order to "make weight" with most of the loss occurring in the final days or day before competition. To accomplish these changes, practices associated with food deprivation, water restriction and dehydration are used, with dehydration through sweating being the method of choice. These practices are repeated many times throughout the season even though strong objections have been voiced by medical, athletic, and educational organizations because of the potential health problems that could occur. The physiological consequences of "making weight" are associated with a reduction in muscular endurance, an impaired thermoregulatory capacity, lower blood volumes, an increased stress for the cardiovascular system, a loss of energy stores, and altered kidney functioning.

The American College of Sports Medicine feels that the potential health hazards created by the procedures used to "make weight" by wrestlers can be reduced if state and national organizations will:

1. Assess the body composition of wrestlers and not allow anyone with less than 5 per cent fat content to compete without medical clearance;

2. Emphasize the importance of eating a balanced diet that meets the daily caloric requirements;

3. Discourage the practice of fluid deprivation and dehydration by:

 a. Better education of coaches and wrestlers;

 b. Prohibiting the single or combined use of rubber suits, steam rooms, laxatives, diuretics, etc.;

 c. Scheduling weigh-ins just prior to competition.

4. Permit more participants from each team to compete in the weight classes between 119 and 145 pounds.

5. Schedule competition at championship meets by allowing wrestlers to participate only in those weight classes in which they had the greatest number of matches throughout the season.

6. Encourage the systematic collection of data concerned with the hydration state of wrestlers and its effects on their growth and development.

Information for Authors

Manuscript Preparation

Manuscripts must be typewritten, double spaced, leaving wide margins. Submit the original, plus one copy if possible.

Titles should be short, specific, and amenable to indexing. A subtitle is frequently used to keep the main title short.

Summary: All manuscripts should include a short abstract which is a factual (not descriptive) summary of the work.

Author Responsibility: The author is responsible for all statements made in his work, including changes made by the copy editor. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication. Publication elsewhere will be subsequently authorized at the discretion of the Editor.

Galley Proof: To make extensive changes in the article after the text has been set in type may require an additional cost which exceeds the original. The galley proof is for correction of ERRORS, and a rewriting of the article should be done on the original copy BEFORE it is submitted for publication.

Drugs should be called by their generic names; the trade names can be added in parentheses if they are considered important. All *units of measure* must be given in the metric system.

References

Bibliographic references should not exceed 20 in number, documenting key publications. Personal communications and unpublished data should not be included. References should be arranged according to the order of citation, and not alphabetically. All references must be numbered consecutively and all must be cited in the text. Use the style of the AMA publications, giving: name of author, title of article, name of periodical, volume, pages, year.

Illustrations

All material which cannot be set in type, such as photographs, line drawings, graphs, charts, tracings (for preparation of tables, see below) must be mounted on white cardboard. All must be identified on the back as to figure number, author's name, and an arrow indicating top. Legends should be typed double spaced on a separate sheet of paper, limited to a maximum of 30 words.

Drawings and Graphs should be done professionally in India ink on illustration board or high grade white drawing paper.

Photographic material should be submitted in duplicate as high contrast, glossy prints. Color illustrations will be accepted for publication only if the author assumes the cost.

THE JOURNAL will assume the cost of B/W engravings and cuts up to $35 (or 5 cuts). Engraving cost for illustrations in excess of $35 will be billed to the author.

Tables

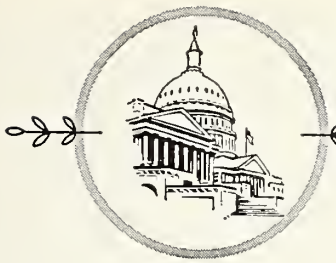
Because tables are set by hand, their cost is comparable to illustrations. A reasonable number of tables are allowed without cost to the author.

Tables should be self-explanatory and should supplement, not duplicate, the text. Since the purpose of a table is to compare or classify related items, the data must be logically and clearly organized. The relationship and comparison are established by the correct choice of column heads (captions of vertical columns) and stubs (left entries in horizontal listings).

Each table should be typed double spaced, including all headings, on separate sheets of lettersize paper. Oversize paper should not be used. Instead, repeat heads and stubs on a second sheet for tables requiring extra width. Number tables consecutively. Each table must have a title.

Reprints

A reprint order form with a table covering cost will be sent with the galley proof to each contributor. Since the JOURNAL has no way to provide for reprints, they must be ordered by the author and purchased directly from the printer.



Socio- ECONOMICS

Nurse Clinician

GERALDINE C. HOLMES, Ph.D. *and*
RITA E. BASSETT, ***Kansas City, Kansas***

SHORTAGE of primary care physicians in rural Kansas and the uneven access to primary care services throughout the state was one of the problems identified by the Kansas Regional Medical Program during its early years of operation. This problem was studied, and several projects were initiated to remedy it. One of the most successful has been the use of physician extenders in private office practices which are located in medically underserved areas.

In 1971, primary care physicians in Kansas were asked if they would be willing to employ a physician extender in their practice, and if so, what type of training these individuals would need in order to work effectively in a new role.[1] On the basis of information received from this survey and consultation with many people in medicine and nursing, a program was developed for training experienced nurses to work as primary care nurse clinicians in ambulatory health care settings. The program was reviewed and approved by a committee of professional experts, by the Regional Advisory Council of the Kansas Regional Medical Program, and by the Division of Regional Medical Programs in Washington.

The Nurse Clinician Training Program was started in January 1972, in Kansas City, at the University of Kansas Medical Center. However, following core training for the first class, the program was transferred to the Wichita State University Branch of KUMC, because an alternative training program for nurse clinicians was developed at KUMC.

The course includes a two-month didactic phase, during which time students reside in Wichita, followed by a ten-month preceptorship with a sponsoring physician. By November 1975, 72 nurse clinicians had completed the program and 34 others were in various stages of training. Of the total, 49 are employed in medically underserved areas of Kansas, 30 are employed in Wichita or other urban areas of the state, 27 are working in other states. Eighty per cent of those employed in Kansas serve in private group or solo practices.

Results of 1973 and 1975 interview studies of participants in the nurse clinician training program at the Wichita State University-KUMC Branch are reported. Findings from literature reviews and the first productivity case studies are summarized.

There has been a great deal of interest in the state and nationally in learning more about the participants in the program and the experiences of nurse clinicians in private practice settings. Therefore, the staff of the Kansas Regional Medical Program (KRMP) has conducted a series of studies to evaluate the effectiveness of the program. In spring 1973, a study of the working roles of the first 21 participants in this program was conducted. The motivation of nurses and physicians who had participated, the working roles of clinicians, and the perceived problems and benefits associated with their employment were studied. Concurrently, a systematic review of professional literature was initiated which has

From the Department of Planning and Evaluation, Kansas Regional Medical Program.

focused on the utilization and productivity of physician extenders, the content of primary care practices, and the delivery of primary care services in the office practice setting. On the basis of these findings, a series of case studies to determine the impact of nurse clinicians on the productivity of office practices was initiated during summer of 1974. These case studies have been conducted in Kansas in two rural solo practices, a rural two-physician group practice, and a suburban solo practice.

Professional literature provides extensive evidence that patient acceptance of physician extenders has not been a significant problem. Ten studies conducted since 1967, demonstrate that physician extenders can manage selected types of patient problems equally well with physicians. Three studies indicate that the range of profit to physician employers of pediatric nurse practitioners is $2,500-$17,000 during the first year of employment.[2-4] A recent study of MEDEX shows a range of profit to physician employers of $12,840-$39,210 a year.[5] A 1972 study by Pondy[6] suggests that the role definition of a physician extender has substantial influence on productivity, and this study cites an actual increase of 9 per cent in the number of patient visits processed after the introduction of a physician assistant into a solo practice in North Carolina. The first productivity case study of a solo practice in Kansas indicates that 20 per cent of patient visits which would normally require the attention of a physician are being managed successfully by a nurse clinician, and she allows the physician to increase his productivity by approximately 12 per cent.

Nurse Clinicians in Kansas

Research evidence to date documents and describes some of the problems associated with being a nurse clinician and with employing one. It also provides a very strong argument that such individuals can and generally do make a very significant contribution to the practices and communities in which they are employed.

Interviews were conducted in April and May 1972, with the first 21 nurses who entered the program and their preceptors, or employers. In fall 1975, interviews were conducted with 44 more recent graduates and preceptees and 30 of their employers.

The 65 nurse clinicians interviewed ranged in age from 21 to 57 years (median age, 34). Prior to entering the program, they worked in nursing, 10 months to 33 years. The majority of the early graduates were employed as a nurse in private practice before entering the program, and were employed as nurse clinicians in the same practice following preceptorship. However, 20 of the more recent graduates were employed by hospitals before they entered the program. Most of the former hospital nurses are now employed in group or solo practices. At the time they were interviewed, 45 clinicians were employed in private medical practice, 10 in public health departments, 7 in hospital settings, and 2 in university health centers. One was not employed.

Two clinicians serve their communities from offices in which the physician is no longer present. One physician died, the other retired at the age of 70. Both of these clinicians work with sponsoring physicians located in towns about 20 miles distant. They work from standing orders, consult by telephone with the physicians, and refer patients whose problems are too complex for the clinicians to handle alone.

The first 21 graduates of the program were employed in Kansas after their preceptorship, and 16 of them have been working in small towns and communities which can be described as medically underserved. Many of the more recent graduates are also employed in rural Kansas communities. However, a sizable number of the more recent graduates have come from and returned to Wichita for employment.

The increase in students from Wichita has a direct relationship to the announced termination of the Regional Medical Programs by the federal government on June 30, 1976. The RMP staff in Kansas was reduced by 88 per cent in 1973. Since that time, it has not been possible for the staff to help significantly with the time-consuming and important task of recruiting qualified nurses and preceptors from medically underserved areas in Kansas. KRMP has funded the Nurse Clinician Training Program since its inception in 1972. In 1975, the State of Kansas assumed fiscal responsibility for core training in Wichita, and KRMP provided funds for the preceptorship phase. The program, in its present form, will require additional state funding to continue beyond 1976.

Interviews have been conducted with 49 Kansas physicians who have served as preceptors, and several of these individuals have participated in the training of more than one nurse clinician. All but two are in family practice, internal medicine, pediatrics, or general practice. One is a nephrologist at KUMC, who served as preceptor for a nurse nephrologist. The second is director of the Institute of Logopedics in Wichita. Preceptors have ranged in age from 30 to 57 years. However, most are between 40 and 55 years of age, and have been practicing medicine 10-20 years.

Role of Nurse Clinician

The role of the nurse clinician is varied, and is unique in some respect. However, a number of common tasks are carried out by most clinicians who work in primary care settings. The definition of a particular nurse clini-

cian's role appears to depend upon four factors: (1) the type of practice in which she is employed; (2) the philosophy and preferences of her employing physician; (3) her own abilities and wishes; and (4) the nature of patient care needs.

In the two-month didactic and clinical program at Wichita, nurse clinicians have received training relevant to the performance of 56 health care tasks. Fifty-two nurse clinicians have participated in the study of working roles and role change in relation to these tasks. This study revealed that all of the nurse clinicians working in a private practice perform physical assessments, determine the need for and order basic diagnostic tests on urine, make preliminary interpretation of basic diagnostic tests, and engage in patient education. About half are supervised to some extent when making preliminary interpretations of basic diagnostic tests. Otherwise, these tasks are performed independently by clinicians.

Most clinicians (75-98%) also perform the following tasks independently: (1) obtain and record patient histories; (2) conduct adult and child well-care physical examinations, including gynecological and breast examinations on women; (3) organize information for presentation to the physician; (4) make initial assessment of emergency cases; (5) educate patients in nutrition, special diets, and preventive and emergency measures for high-risk conditions; (6) determine the need for and order throat cultures as well as perform them; (7) perform visual screening procedures and immunizations; and (8) conduct pre and postnatal checkups, well-baby physicals, and child care education.

No direct supervision is required for the 40 per cent of the clinicians who perform audiometries, tonometries, and EKGs; 36 per cent apply casts; and 31 per cent report assisting in the operating room. As in the case of those doing minor suturing, most of these clinicians were formerly hospital nurses.

The other tasks that most clinicians perform (but in which more than 25% have supervision) are determining the need for and ordering x-rays, blood tests, assessing cardiac functions and venereal diseases. Most clinicians monitor and manage chronic problems such as diabetes, hypertension, obstructive lung disease, and arthritis. Approximately one half manage renal insufficiency with some physician supervision.

Between 50 and 75 per cent of the clinicians take histories, give physicals, and write progress reports on hospitalized patients; two thirds of the clinicians performing these tasks do so independently. Fifty-one per cent of the clinicians do minor suturing; fewer than 15 per cent of the clinicians administer anesthetics, manage uncomplicated deliveries, perform circumcisions, insert IUDs, or perform routine laboratory procedures.

Seventy-two per cent of the clinicians make house calls; 68 per cent make nursing home visits; 59 per cent make hospital visits with the physician, and most of these nurses also make rounds unaccompanied.

There are some tasks that clinicians are capable of performing but do not perform. Half of the physicians report that clinicians do not perform male genital examinations, do no suturing, and do not remove growths because of a fear that patients may not accept this service from anyone but a physician.

When comparing the group of nurse clinicians interviewed in 1973 with those interviewed in 1975, a shift in the percentage of clinicians performing certain kinds of tasks was observed. The more recently trained clinicians are taking more responsibility for monitoring and managing chronic illnesses. They are doing fewer of the time-consuming diagnostic tests *(i.e.,* x-rays, Denver Developmental Screening Tests, and EKGs) and less routine laboratory work. Pre and postnatal checkups are being done by 20 per cent fewer of the more recent graduates.

Most tasks presently performed by clinicians are tasks which they did not perform as registered nurses, and a majority perform at least 25 new health care duties. Most clinicians report that prior to training they did not take complete histories, perform physical examinations, make physical assessments, secure Pap smears, or order basic diagnostic tests. Such tasks now comprise a staple part of their responsibilities.

Some tasks nurse clinicians perform are not new; they are ordinarily assigned to registered nurses. For example, a majority of clinicians did and still do take x-rays, give immunizations, and provide education for patients in the use of prescribed medications. Only a few clinicians view patient education as a new function, but they have expanded the scope and depth of the education they provide.

Seventeen clinicians have reported a reduction in the kinds of routine nursing tasks they perform. Those most frequently deleted from the roles of nurse clinicians are taking routine temperatures and blood pressures, administering medications, and performing routine laboratory tests.

The nurse clinicians in this study provide many services to patients which previously required the attention of a physician. Some of these are provided independently, while others are provided with supervision and consultation of the physician. However, the amount of physician supervision required is reduced during the course of preceptorship and, therefore, the physician's time is freed for other patient care responsibilities. Frequently, performed tasks tend to be those which require less physician supervision. This finding is consistent with re-

sults of a study of physician's assistants in other states.[7]

The 65 nurse clinicians and 49 physicians interviewed were asked to state their reasons for participating in the program. Nurse clinicians gave six basic responses: (1) to acquire a more interesting and satisfying professional role; (2) to learn more about patient care; (3) to enhance professional status; (4) to comply with the request of an employing physician; (5) to meet a need for health care in a particular community; and (6) to make more money. The reasons most frequently cited were to engage in more interesting work and to learn more about patient care. A desire to increase income was given as a primary or secondary reason for entering the program by only 12 per cent of the clinicians interviewed.

Physicians gave three primary reasons for agreeing to serve as preceptors: (1) to provide better care for patients already served; (2) to reduce working hours; and (3) to serve a larger number of patients. Most physicians who have trained or employed nurse clinicians have done so to provide a better quality of care to their patients, whether by increasing services, out-of-office visits, or concentration on serious problems. Some have felt a need to provide health care services to new patients who were without a physician.

Twenty-two physicians cited a need to reduce their own working hours as a central reason for training and employing a nurse clinician. Even when this reason was the sole one, the implication was clear that physicians felt unable to reduce time spent in patient care unless a satisfactory alternative existed for providing such care. Three physicians agreed to serve as preceptors primarily because they were asked to do so.

All of the clinicians interviewed felt an increased sense of professional competency, and 86 per cent reported a significant increase in their job satisfaction. Most enjoyed feelings of greater professional challenge and fulfillment in their new roles. They recognized that they were making a more significant contribution to patients now than they were able to in their previous role.

However, there are aspects of their new role that some clinicians do not enjoy. Ten experienced some insecurity in performing certain tasks, and six were uncomfortable with the vagueness of their role. Four clinicians have found that they miss another type of nursing in a hospital environment, and ten objected to increased paperwork at the expense of patient contact. A few have become concerned about the increasing length of their work day. Although a desire to make more money was not a primary reason given by most clinicians for seeking additional training, the issue of appropriate compensation became a concern for many as they have become experienced and established in a new role. In 1973, 13 of 16 clinicians employed in private practice felt that they were receiving an adequate salary for their services. However, the interviews conducted in 1975 revealed that half the nurse clinicians in this group felt that they were not receiving appropriate compensation for their added responsibilities. Eleven of these clinicians have received a salary increase since entering nurse clinician training, and eleven have not.

Although no information was sought on the salaries paid to clinicians, 63 clinicians provided information on the raises they have received since the completion of their preceptorship. *Table I* shows the distribution of salary change that accompanied the change in role from registered nurse to nurse clinician for this group of individuals.

The Physician's View

Kansas physicians who employ nurse clinicians report several types of benefits, including a significant reduction in work-related stress and fatigue. This benefit is cited as a crucial factor in the decision of a few physicians to continue practice in rural Kansas communities. Several physicians comment that the work day is less stressful when a clinician is present, because patients do not have to wait so long to receive attention. In some overburdened practices, long waiting periods for patients have caused a deterioration in doctor-patient relationships.

Twenty-three of 31 physicians who gave "a desire to reduce working hours" as one reason for employing a nurse clinician have attained that objective. The reduction has averaged 10-14 hours per week. However, five physicians report reductions of only 3-6 hours per week. Some of those who report a significant reduction in working hours are still investing 10-12 hours per day in patient care.

Between 1969 and 1971, surveys were conducted in four states to determine physician attitudes toward the use of physician extenders. In those states, the following percentage of physicians surveyed indicated that they would or could profitably employ a physician extender:

TABLE I

MONTHLY SALARY CHANGE FOR NURSE CLINICIANS AFTER TRAINING (N = 63)

Decrease*	2	$201-$300	7
No increase	16	$301-$400	0
Expecting increase	9	$401-$500	3
$100 or less	11	$501-$600	3
$101-$200	12		3

* Both clinicians experiencing salary decreases were previously in hospital settings and are now in group practice.

Kansas, 56 per cent; Pennsylvania, 70 per cent; Wisconsin, 42 per cent; and Kentucky, 75 per cent.[8] One barrier to the utilization of physician extenders uncovered by these surveys was a perception on the part of some physicians that the employment of such an individual would constitute a considerable financial risk. However, studies available on the financial benefits to physicians who employ a physician extender indicate that there is some degree of profit to most of these employers.

Interviews with physicians in Kansas who employ nurse clinicians reveal that the patient charge is generally the same whether the patient is seen by the physician or by the nurse clinician. This policy seems appropriate since nurse clinicians manage independently many patient visits which formerly required the attention of the physician. Patients with problems which are too complex for the clinician are seen by the physician alone or in collaboration with the clinician.

Case studies being conducted in Kansas regarding the impact of nurse clinicians on the productivity of an office practice indicate that clinicians can and sometimes do make a financial contribution to a practice through the patient visits they manage independently and by enabling the physician to make more productive use of his own time.

Physicians serving as preceptors or employers, when asked to identify problems relative to utilizing nurse clinicians, said the greatest difficulty is in defining the clinician's role in a way that maximizes benefits and prevents problems. In several practice settings, working out an operational role has required experience and adjustment. Judgments of physicians vary on what a nurse clinician should do; decisions are based on their perception of the abilities of the clinician, what patients will accept, the needs of their practice, and risks associated with medical-legal liability. Sixteen physicians indicated that the initial difficulties they experienced in creating an appropriate role for the clinician were due to other personnel in the office. Nine cited vague laws or fears of malpractice suits as a factor influencing the role of the clinician.

The cost of malpractice insurance has not increased in Kansas for physicians because they employ nurse clinicians. However, the legal status of clinicians is vague and, as a result, relatively conservative use is being made of their abilities in some situations. In many practices, patients have a choice of seeing the physician or the nurse clinician. In others, the physician sees each patient who has already been seen by the clinician, even if only for a moment.

Difficulties experienced by most physicians have been minimal, but concern about potential problems persists in the minds of a few. Generally, acceptance of the nurse clinician by patients and by other professional persons has not been a problem. Most physicians report positive or enthusiastic acceptance of the nurse clinician. A few noted mixed responses initially, but patient resistance was overcome quickly. Irritants such as jealously exhibited by other employees in the office have been limited.

Others in the health professions seem more reluctant to accept the nurse clinician role than the general patient population. Forty-five per cent of the clinicians reported positive reactions from other nurses, but 75 per cent reported neutral or negative responses from those in other health professions. Ten negative responses were from other physicians in the communities, and eight were from hospitals. In only a few instances, however, were responses serious enough to limit the clinician's function.

Acceptance of nurse clinicians did not come about automatically. Most physicians prepared their patients and office staff for the nurse clinician by personally explaining her role and expressing confidence in her competence. Another factor contributing to positive acceptance is that many clinicians have been well known to patients prior to training for the new role.

Benefits to Patients

Improved access to health care services has been identified by most physicians and nurse clinicians in this study as the most significant benefit to patients. In practices in which the clinician sees patients independently, most average nine or ten patient visits each day; some see fewer than five patients a day, and others average more than 20 patient visits per day. Ten physicians gave estimates of additional patient visits made possible by the assistance of the clinician, and these estimates ranged from 5 to 30 patient visits per day.

Most physicians and clinicians feel that patient waiting time for service has been reduced and that quality of care and patient education have improved. The frequency with which these and other patient benefits have been identified is summarized in *Table II.*

Although patient charges are not generally reduced when a patient sees a nurse clinician rather than a physician, patients often receive more professional attention and more comprehensive care without any additional charge. For this reason, some clinicians and physicians feel it appropriate to say that the cost of health care services to some patients is reduced when a nurse clinician is utilized. Some feel also that improved care can reduce the number of return visits and the cost of hospitalization, and this perception has received some support from other studies.[9]

TABLE II

BENEFITS TO PATIENTS RESULTING FROM NURSE CLINICIAN UTILIZATION

Patient Benefit	*% Citing Benefit* PHYSICIANS (N = 49)	CLINICIANS (N = 65)
1. Reduction in waiting time for care	100	89
2. Increase in time spent with patients	91	76
3. Increase in number of patients seen	85	100
4. Patient education has been improved	83	72
5. Saved time and travel expense for patients by home visits and new practice sites	51	69
6. Improved quality of care	40	23
7. Increased availability of care at night and on weekends	38	43
8. Reduction in incidence of hospitalization	4	0
9. Improved communications	2	3
10. Increased emotional support for patients	0	1

Two physicians in Kansas reported an increase in cost to the patient as a result of utilizing a nurse clinician. However, both indicated that the clinician obtained more information and provided more services. Therefore, this increase in cost is related to increased service. Most physicians and nurse clinicians in the study felt that the patient benefits cited could not have been realized without the nurse clinician training program or the recruitment of another physician to the practice or community.

Summary

The utilization of nurse clinicians in practices studied has produced advantages for patients, the clinicians, and their employing physicians. The type of benefit derived is closely related to the physician's reason for employing a clinician. For the most part, physicians who wished to provide more comprehensive care, to serve more patients, or to reduce their own workload have achieved the desired results. Nurse clinicians have contributed to the productivity of physicians and have provided expanded services to patients. They are generally well accepted.

Nurse clinicians in medically underserved communities in Kansas are improving access to needed health care services. They are helping retain some physicians in rural communities, and they are providing services which would not be available otherwise. Therefore, it seems important that the problems which do exist in regard to the training and employment of nurse clinicians in Kansas be resolved.

Adequate financial support for the nurse clinician training program after 1976 is needed. The legal status of nurse clinicians requires further clarification. Some problems related to third-party payment for services provided by nurse clinicians need to be resolved. The issue of appropriate compensation for the services of a nurse clinician deserves attention; it could be addressed through a study of salary scales of physician extenders to supply an external perspective to those who are concerned about this matter.

At the time of this study, the 49 graduates of the Wichita based program who are employed in medically underserved areas of Kansas are managing, or enabling their employing physician to manage, an additional 1,078 patient visits a day. This figure is based on an average of ten patients/day seen independently by clinicians and 12 additional patients seen on the average by physicians. The projected annual figure of an increase in patient visits by 25,872 (5,280 per practice) is based on 240 eight-hour work days/year. These patient visits occur in communities which experience difficulty recruiting the additional physicians they need. This benefit alone seems worth the total investment required to maintain the program which has trained these individuals.

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Pediatric Teaching and Research

Adequate Ambulatory Service Environment

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OUTPATIENT departments of many university medical centers in the United States are characterized by fragmentation of patient care and failure of individuals or teams to assume responsibility for identification and resolution of problems. This situation hinders the teaching of ambulatory pediatrics since it does not demonstrate quality care on a continuous basis. A typical university clinic provides little opportunity for research in health services because of the inadequacy of the facility for clinical investigation.

The Pediatrics Department of the University of Kansas Medical Center, since August 1973, has been planning, developing, and implementing an integrated service, teaching, and research program in ambulatory pediatrics. By necessity, the service program required attention initially in order to create adequate clinical facilities to support health services teaching and research programs.

A clinical laboratory capable of supporting health services research has been developed. Its manpower includes faculty, house officers and nurse practitioners, organized into a group practice configuration called the University Pediatric Group (UPG). UPG operates 24 hours a day, 7 days per week, offering service to all pediatric patients regardless of payment status, who seek general pediatric care at the medical school. It is a self-governing group with established policies and operating procedures in the areas of service, teaching, and research.

Providers of health care services criticize the quality of care rendered in typical outpatient departments in university medical centers and the manner in which they are administered.[1] Many patients are distrustful of the clinic atmosphere, preferring to have their needs met by a physician in private practice. Those views point up the need for establishing in the clinic setting, competent service, teaching, and research programs which are mutually satisfactory to providers and recipients of health care.

Service and teaching usually occur simultaneously. The student or house officer takes a history, examines the patient, develops an impression, formulates recommendations, and then presents his summary to the faculty member in attendance. The physician, depending on the complexity of the case, develops his own diagnosis and treatment program and shares his impressions and recommendations with the trainee. Thus, course content is entirely dictated by clinical problems seen during the time the student is in the ambulatory care area—a matter of chance rather than an organized approach within a specified curriculum. The student's development of interpersonal skills, knowledge and understanding, problem solving ability, clinical judgment, and technical skills occurs by chance rather than by design.

Organization and functions of the University Pediatric Group (UPG) are described. It is a self-governing group with established policies and operating procedures in the areas of service, teaching, and research.

Background

A decision to increase the emphasis on training in ambulatory pediatrics at KUMC was made in 1973, and by January 1974, an academic section had been established with a full-time chief, four part-time faculty pediatricians, and one part-time health planning and administration specialist. The group surveyed existing service and training activities and reported three basic deficiencies: (1) the clinic was devoid of routine professional leadership; (2) staffing was irregular, even though it included nurse practitioners, nurse practitioner students and their instructors (RN and MD members of other academic departments), pediatric house officers assigned for a few days at a time to provide coverage in the clinic, house officers seeing occasional patients on followup visits, pediatric faculty members in a supervisory capacity, and medical students on routine clerkships and electives; and (3) the clinic lacked a functional administrative plan. Since it is not possible to

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duplicate the quiet, dignity, and efficiency of private practice in a medical school setting, the planners turned to another alternative to upgrade the pediatric outpatient clinic—developing a research program in ambulatory pediatrics.

Objectives

Although the ultimate objective is establishment of a university-based research center in ambulatory pediatrics, the preliminary phase, the only part so far accomplished, relates only to: (1) defining ambulatory pediatrics in terms of facilities, manpower, and services; and (2) outlining administrative control over these resources. Our plan for building a laboratory capable of supporting health services research is reported at this early stage to assist other institutions which may encounter obstacles similar to those we have noted.

The group studied the fundamental aspects of planning, organizing, and implementing a comprehensive pediatrics group practice, first reaching a consensus on requisite policies and procedures. Making certain that minimum standards were achieved was in itself a huge planning effort which required acceptance of new schedules and responsibilities on the part of all members of the health manpower team. Multiple problems were identified, and many have been solved.

Organization and Delivery of Service

Under the previous plan, patients usually saw different physicians on successive visits. Those admitted through the emergency room, for example, were seen by one physician there and by another in the inpatient service. After discharge from the hospital, patients received followup care in the outpatient clinic, often being seen by a different physician each time they visited the clinic. To remedy this lack of continuity, two pediatric teams from among pediatricians (P) and pediatric nurse practitioners (NP) were recruited, who had expressed interest in delivering care in the ambulatory setting. Team A was composed of two Ps and two NPs, and Team B included three in each profession. Additionally, each team was broken down into pairs (one P, one NP) working in close proximity to each other. Through this grouping system, we could maintain continuity and assure a patient that at least one member of the team he had been seeing would be available at all times during clinic hours. With establishment of the team concept we had, in effect, created a group pediatric practice within the department.

At the outset, it was stressed that those serving on the teams could not absent themselves from the clinic during their scheduled hours. Some difficulty was encountered initially because of illness, holidays, vacations, or emergencies. In addition, those accustomed to viewing the medical center as a tertiary referral source had not before viewed patient responsibilities on a continuous basis. By repeatedly stressing the importance of responsibilities to patients, and by implementing procedures for non-compliance, the support and cooperation of all members of the teams was won.

Also devised was a plan whereby residents might provide followup care for patients they had previously seen in the wards. Four house officers in the general pediatric clinic were assigned to a specific ward, and all admissions from the general clinic were made to this ward. The officers rotated call in the emergency room every fourth night and spent half of every day in the clinic. They also made work rounds with the attending physician six mornings a week, after which two remained on the ward and two went to the clinic for four-hour assignments (the remainder of the morning). The residents reversed responsibilities in the afternoon.

This arrangement presented a problem at first, when a sub-specialist wanted to discuss procedures or patient management with a house officer who was absent from the ward because of clinic responsibilities. A "buddy" system was instituted, whereby the four house officers were divided into two teams, with each team having an inpatient and an outpatient component. Each house officer was required to know as much about his partner's patients as his own. This doubled his patient load, but it did not impose an excessive work requirement and it also doubled his opportunity to learn.

The preceding arrangements provided continuity of care for a period of six months—the duration of the house officers training for that particular rotation. Additional plans for the transition period were devised, when one set of house officers rotates off the service and a new set rotates on. Since January 1975, house officers have been included as members of the P-NP team. This provides continuity for patients and allows new residents an opportunity to become acquainted with and develop rapport with their new patient populations.

This exposure also enables the house officer to gain insight into the way a pediatrician works with a nurse practitioner, first by observing the process and later by referring patients back and forth between the nurse practitioner and himself for well child care, education, reassurance, or care of acute or chronic illness. The degree to which each provider is involved with a patient is determined by the nature of the care to be delivered. A nurse practitioner may take on responsibility of well child care, for example; the house officer and nurse practitioner may collaborate on the care and followup of a patient with otitis media or diarrhea; and all three may

be involved with a child who has multi-system disease.

Formal procedures have also been devised for patients requesting care at night, on weekends, or on holidays. NP on call discusses the problem with the patient and determines whether on not the attendance of a physician is required. If she judges that the patient should be seen, the faculty attending physician is called. His instructions are then followed. In most instances, the physician speaks directly to the patient and asks him to report to the emergency room (since there is no night clinic facility at the medical center). The physician also alerts the house officer on call in the emergency room and invites him to examine the patient while awaiting the attending physician's arrival. The faculty physician is obliged to see the patient himself; he cannot relegate care to the house officer on call. This enhances both patient care and resident education.

During the hours the pediatric outpatient clinic is open (now five full days per week), pediatric patients cannot be seen in the emergency room as walk-ins unless a true emergency exists. Emergency room personnel and administrative officers of the medical center expressed some concern at first that care of children with true emergencies might be delayed when house officers previously assigned to the emergency room were serving in the clinic area. The fear was unfounded; house officers paged in the clinic can reach the emergency room in less than three minutes. Now, when a non-emergency patient presents himself in the emergency room, a clerk there telephones the clinic for a clerk-escort to usher the patient to the clinic. These procedures, originally adopted for a 90-day trial period, are now standard, since they cause no compromise in patient care. House officers continue to see general ambulatory patients in the emergency room at night, on weekends, and on holidays.

Appointment System

A new appointment system has reduced patient waiting time to a period considered reasonable (theoretically to zero). Several physicians and key administrative employees sensitized other clinic personnel and trainees to the importance of maintaining the schedule by displaying varying degrees of displeasure when patient waiting time was unduly prolonged (we stress that the patient's time is as valuable as the provider's).

Under the old plan, patients did not have individual appointments. They were instructed to come to the clinic at 9:00 AM or at 1:00 PM, and they were subsequently seen on a first come, first served basis. It was not unusual for patients to wait two or three hours to be seen.

By dividing the number of provider manhours available per day by the average number of patient encounters per day, it was demonstrated that sufficient manpower was available to carry the patient load without difficulty. The provider completes a card supplying information for clerks who make appointments, including on the card such data as patient's name, nature of problem, date and hour to be seen, duration of visit, and names of other providers involved in his care. Since the provider himself determines the time required to meet the patient's requirements, he can manipulate his schedule to be certain that the needs of one patient do not infringe upon time set aside for another.

One house officer is designated to see walk-in patients, those triaged through the emergency room, and children scheduled to be seen as the mother brings them to the clinic. The house officer so designated has only two scheduled patients to see during that half day.

Medical Records

Our plans to make medical records available to those who need them at specified times have been successful to a degree. Patients' charts are now available for 93 per cent of scheduled appointments and 82 per cent of unscheduled visits. Before our program was initiated, records were available for 60-70 per cent of patient visits.

This improvement was accomplished through a study of the record retrieval system, surveys of providers' offices (500 charts were found during one unannounced survey), and institution of new procedures to correct the defects that became apparent. We now maintain a register of all charts received in the clinic, linking each with the name of the provider who will use it. Each entry is considered active until the chart is returned to the department clerk, who marks it and subsequently returns the file to the institution's medical records department. The last person responsible for each chart is thus identified.

Administrative Structure

A clinic manager supervises the administrative structure, and activities are proceeding more smoothly now than at any time in recent history. During the last nine months the outpatient census has more than doubled.

The clinic manager formerly spent most of his time solving problems as they arose, using persuasion as an administrative tool, since most support personnel were employees of other divisions within the medical center (business office, pharmacy, laboratories, admissions, etc.).

Several steps were taken to provide the clinic manager with authority to oversee day-to-day operations and to change his image accordingly. First, was preparation of a new and inclusive job description. This was followed by careful support of the clinic manager's new

role by the department chairman and clinic directors and by refusal on the part of those individuals to deal with problems falling within his province. Other employees both inside and outside the clinic followed this lead and now actively cooperate to keep the unit functioning effectively without discord.

Telephone Answering Service

Our communication system provides that nurse practitioners answer telephone calls. Patients are instructed to call the clinic during regular hours and to call the answering service when the clinic is not open. A practitioner on call will respond to off-hours calls.

If a patient asks for a specific nurse practitioner who is not on duty, the practitioner who receives the call has two options: (1) she can relay the message to the person originally called if delay will not jeopardize the patient or compound the problem; or (2) she can deal with the problem if it requires immediate solution. In either event, it is her responsibility to provide complete information about the call and the action taken to the provider, who has primary responsibility for the patient and followup care.

Both the house officer in the emergency room and the practitioner on call are required to fill out telephone information sheets on all calls to provide data to those responsible for each patient and his subsequent care.

Governance

Policies governing the University Pediatric Group have been published in a manual which is divided into ten sections: (1) statement of philosophy; (2) organization chart; (3) job descriptions; (4) service policy; (5) professional staff scheduling; (6) patient appointment procedures; (7) telephone system and on-call arrangement; (8) medical records system; (9) teaching policy; and (10) research policy.

The manual incorporates rules and regulations deemed essential to the delivery of health care in the clinic. We view it as a fluid, continually changing document, easily revised to accommodate changing circumstances, new developments, or improved procedures. Every provision was presented in written form to all participating physicians and nurse practitioners, discussed at one of a series of meetings, revised if necessary, and adopted by majority vote at a regular meeting with a quorum in attendance. Amendments will be subject to the same procedures.

The policy dealing with rule infractions by members of the group, primarily one member's complaint about the performance of another, is of particular interest. Our regulations provide a series of steps to be taken sequentially until the problem is resolved: (1) the two persons involved try to reach an agreement; (2) the matter is referred to a committee which is to make a recommendation; (3) the matter is referred to the chairman of the department whose decision is binding and final. All problems to date have been resolved on a one-to-one basis.

Implications

We do not know what effect our revised health delivery system has had on such outcome measures as longevity, activity, comfort, satisfaction, disease, potential, and resistivity in our patient population.[2] However, we have developed a laboratory to support future research and evaluation projects, and we are preparing several protocols.

Many observers feel that episodic care in teaching institutions can be attributed to the medical education process which by its nature cannot change. We do not agree. We see several sets of forces—the method of public subsidies to teaching institutions, emphasis on research, emphasis on specialty and sub-specialty education, and a preoccupation with clearly defined disease entities.

Under previous methods of financing, it was the prerogative of the faculty of teaching institutions to set service, teaching and research goals, and the dependent medically indigent population whom the institution served had little or no influence on the concept of the clinical program. The special interests of the institution and its faculty prevailed, leaving many medical schools with totally inadequate resources to respond to two strong trends in the United States: (1) increased emphasis on training more primary care physicians; and (2) increased public intervention in the purchase of health services.

The shortage of primary care physicians in this country has become acute. In order to train more such physicians, medical schools must begin developing in-house capability to demonstrate quality primary health services. In addition, they will probably have to look increasingly to medical service environments in the private sector as training sites, since the increased number of trainees in primary care cannot be totally accommodated in the schools themselves. It will be incumbent upon medical schools to provide care in their facilities which is comparable to that provided in the private sector. The alternative is the emergence of two standards of care and teaching—with the medical education institution relegated to second-class status.

Millions of persons who had little or no choice of provider in the past are now on Medicare and Medic-

(Continued on page 578)

The President's Message

By the time this appears in print, Council district meetings will have been held in 12 locations—from Colby to Pittsburg, and from Garden City to Hiawatha. Interest and response have been good. Your questions and suggestions are valuable, and some have already been acted upon. Your kindness and hospitality, and the excellent meals, have also been much appreciated. It is encouraging to see the number of young physicians at these meetings, even those held in very rural areas. It is especially gratifying to see an occasional father-son combination.

Some of the items being worked on as we approach the new legislative session are:

—Availability and distribution of health care in Kansas;

—Make-up of the Board of Healing Arts;

—MD-OD activities;

—Physician extenders;

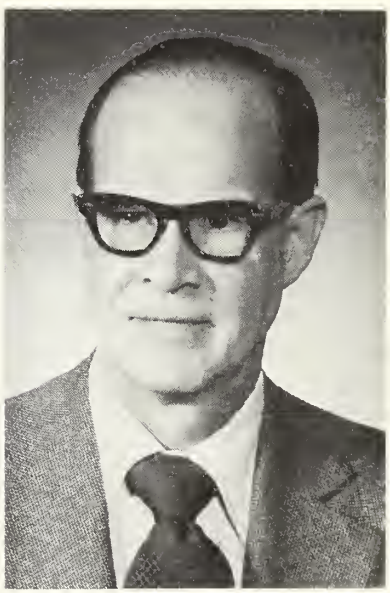
—Amendments to 1976 legislation.

Our thanks to Dr. Dykes and Dr. Kugel for their interest and participation with us in matters of medical interest in our state.

As your President, I *urge* each of you to visit with your state senator and representative BEFORE the new session convenes. This will be of help to them and to us.

By the time you read this, you will be able to order copies of "THE KANSAS DOCTOR." Please see an ad on Page 548, of this issue of THE JOURNAL.

Our sincere wishes to each of you for a Merry Christmas and a Happy New Year!



Fraternally,

Emerson Yoder, M.D.

President



Editorial COMMENT

Hold the Applause

The September issue of *The Journal of Legal Medicine* carried an article by Dr. Thomas G. Klumpp in which he discussed the function of the FDA—or malfunction, if you will. Dr. Klumpp's credentials for commenting on the FDA include a professional lifetime devoted to drug development, production and evaluation, as well as a five-year stint in the FDA itself. He observes that the agency has been transformed from a model of efficiency and economy to a sluggish (but also overburdened) behemoth of fiscal obesity and operational inadequacy. This transformation has resulted from many things—increased responsibilities, personnel problems, communication problems and politics, to name a few.

He points particularly, however, to the thalidomide episode as one of the prime factors in creating the current climate in the department. It will be recalled that the tragic experience in Europe was not repeated here because the drug's damaging potential was exposed there, while it was still under study by the FDA and, moreover, that the media virtually canonized the FDA physician who was in charge of the evaluation. The fact that the drug had not yet been approved was primarily circumstantial—as the physician readily noted—but the attendant publicity and emotional impact burned a lesson into the FDA: hold up, go slow, call for further tests and additional reports. The consequent delays in obtaining clearance of new remedies, the capricious and inexplicable decisions, deprivations and limitations imposed on the medical profession, and the paralyzing effect on drug research are well known to the profession. Who is going to risk the repercussions which might come from expeditious action when the security of bureaucratic impediment has been so well demonstrated?

As we read Dr. Klumpp's account, we were reminded of an episode in Alexander Solzhenytsin's *The Gulag Archipelago.* He describes a Communist party conference in the Moscow district—not a meeting of particular importance but including the inevitable representatives of the NKVD. The meeting was closed with a tribute to Comrade Stalin (though he was not present) whereupon the assemblage rose and proceeded to applaud. The applause continued for a reasonable time—and continued for an unreasonable time as it became painfully apparent that no one wished to attract adverse attention by being the first to stop. Finally, after about 12 minutes of steady and unanimous clapping, one of the minor dignitaries did stop and took his seat, whereupon everyone immediately followed suit. (But subsequently, as Solzhenytsin records the unwisdom of being sensible, this individual was indeed rewarded by appropriate interrogation and consignment to the Archipelago for some ten years.)

Now this is not to say that we think FDA is staffed with communists. We do suggest that there is a similarity of thought process operating. The principals, observing a procedure which meets with official approval and which, by the same token, would invite official displeasure if not pursued, are not about to go against the pattern which has the blessing from on high. Our FDA colleagues continue their bureaucratic applause lest their deviations lead to some professional Gulag.

They are victims of this compulsion not only because of their intramural experience. In Dr. Klumpp's estimation, a factor fully as effective in bringing about this trapped mentality was the Kefauver Committee, which politicized the drug scene in the chairman's zeal to achieve national notoriety. The coincidental burgeoning of television brought the public to an awareness (if

not understanding) of drug testing and evaluation and added impetus to the obstructionist philosophy. Even more than that, it demonstrated to the Congress the power of the publicized committee hearing. Manipulation by committee has become a potent governmental process in itself, and the congressional committee has gained great power by its ability to apply or withhold pressure, to supply or withhold money. Not only do the committee members gain a heady power (and at least they are elected), but their staffs (who are not elected) utilize that power through their investigative, research, and inquisitorial activities. Thus, we have mutually supportive elements in a system dedicated to sustaining the applause.

Unfortunately, this capacity for sustaining applause is not limited to Communist party members or bureaucratic staffs or our elected representatives. It is a common denominator of these groups because it is a fundamental human characteristic exemplifying our constant search for security. The inspiration for the applause is not necessarily uniform in the minds of the participants but once the action is established, there is comradeship in it. As long as everyone is applauding, we know what the other person is doing (if not what he is thinking) and we know that if he is right, so are we; or if we are wrong, we shall have company in the punishment for our wrongness. Those who refuse to accommodate are early eliminated by exclusion or by coming to some disagreeable end of their own production—or by setting up a new system in which they are the ones applauded.

It is customary in observations of this sort to rely on examples of features which can be attributed to "them," referring, of course, to some trait which permits us to think "they" have lesser qualities than we possess. It is not entirely comfortable, then, to realize that the medical profession is not immune to the self-protecting applause mechanism. Our chief organizational discomforts of the day are rising from a variety of forces which threaten our patterns of self-applause which have sustained us for so long. In no small degree have we continued to applaud at too great length—in part because of real accomplishments and virtues, in part because we liked the status and feared losing it by the very act of discontinuing our applause, and in part, unfortunately, because we mistook our own applause as evidence of our continued success.

Dr. Klumpp cites another manifestation of this phenomenon in the manner in which experts are used to support one's position. "A panel of experts" has become the hallmark of professional and intellectual authority, whether in determining the nutritional value of our breakfast food or choice of political systems or management of colonizing outer space. But "experts" come in all sizes and shapes and areas of expertise. Thus, we find experts from one field becoming, by some translocation of qualification, experts in totally different fields, and we attribute the same high qualities of expertness to them in the new areas (lest our withholding of applause there might diminish their status where it *is* justified). But if it is our wish to establish the accuracy and validity of a matter, it is no problem to develop a group of experts which, by past commitments, can be counted on to give the proper answers (meriting, of course, our applause). Tomorrow, our opponents can assemble an equally respectable panel which will come to the opposite conclusions. A moment's reflection will recall numerous instances of this conflict of minds. It is not a destructive experience but a necessary process for sifting out a better truth from the mass of possible or partial truths. But the conflicts are prolonged as the opponents raise the applause for their own beliefs, hoping to drown each other out—and fearing to stop first.

Realizing that "we" as well as "they" are participants in this supportive mechanism, we must, of course, figure out some way to make it respectable, a point which was of no concern as long as it involved only "them." We want to avoid that knock on the door in the middle of the night which is the inevitable result of stopping the applause. Dr. Klumpp has written a prescription (in generic terms, of course) for relief of the FDA's unhealth which, in paraphrase, can be applied to any organizational rehabilitation: (1) control the funding to prevent useless and repetitive function; (2) eliminate personnel whose incapacity of whatever order impedes the prime function and utilize the remainder with due respect for their intellect; (3) correct communication procedures, both internally and externally, to produce better exchange and reduce paperwork; and (4) reexamine the fundamental purpose of the organization to determine—and eliminate—those needless functions and activities which invade a bureaucracy of whatever origin.

It must be remembered that combination medications are anathema at the moment and however promising this prescription may sound, it has not received FDA clearance yet. Perhaps those involved are aware of the comment made to the hapless Russian official mentioned by Solzhenytsin. Although his arrest, interrogation, and consequent sentence were nominally for some other transgression, his interrogator remarked, as the man was taken away, "Don't ever be the first to stop applauding."—*D.E.G.*

Official Proceedings

1976 Fall Meeting of the House of Delegates

The Fall Session of the House of Delegates of the Kansas Medical Society was instituted principally to work on matters of legislative interest and for such emergency resolutions as might appear.

The resolutions presented to this House of Delegates are printed in numerical order under the minutes of the Second Session.

FIRST SESSION

The first meeting of the House of Delegates was called to order by the Speaker, Clair C. Conard, M.D., Dodge City, at 10:00 AM on Sunday, November 7, 1976, at the Holiday Inn, Lawrence. A quorum was present with the following in attendance: Officers, 11; Councilors, 13; Delegates, 64; Past Presidents, 5; Specialty societies representatives, 5; Guests, 5. Also present were Messrs. Jerry Slaughter and Gary Caruthers, and Mrs. Val Braun.

The following reports were heard.

Healing Arts Board

Mr. Slaughter reminded the delegates that Resolution No. 76-25 directed the Legislative Committee to prepare a recommendation for the reorganization of the Kansas State Board of Healing Arts which would reflect proportionate representation of the four disciplines licensed by the Board. All 49 states were contacted by the Executive Office, to determine what method was used in each jurisdiction to license the health professionals there. This information was forwarded to Mr. Wayne Stratton, KMS Legal Counsel, for study and to serve as the basis of a suitable recommendation for introduction into the 1977 Legislature.

Mr. Slaughter reported that presently, the following breakdown of licensees representation in Kansas exists: MDs—82 per cent, DOs—5 per cent, DCs—12 per cent, Podiatrists—1 per cent, with the following representation on the Board: MDs—5, DOs—3, DCs—3, Podiatrists—1, Lay person—1. The aim of the proposed legislation would be to change the numbers of appointees to the Board of Healing Arts, to reflect a proportionate representation of the four disciplines.

K.U.M.C.

Robert B. Kugel, M.D., Executive Vice Chancellor of the College of Health Sciences and Hospital, K.U.M.C., discussed the rural health problems in Kansas. K.U.M.C. is hopeful of increasing its number of residencies, with 50 per cent of the total eventually in the primary care fields. Dr. Kugel stressed the importance of community recruitment, and a plan to enable the students to spend a weekend in a community. He also discussed the Walker Committee report, which has been approved by the K.U.M.C. Executive Committee in principle. This report calls for close cooperation between the School and the Kansas Medical Society to work toward the mutual goal of supplying physicians to underserved areas of Kansas.

Medical Records

Mr. Slaughter informed the Delegates that a legal opinion by Mr. Stratton, on the broad subject of access and use of medical records, was prepared and published in the October 1976 issue of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY. A bill is being drafted for introduction into the 1977 Legislature, which would make the records of proceedings of hospital medical staff committees confidential and not subject to discovery under the Kansas Code of Civil Procedure, nor admissible in evidence in any court proceeding. The bill would also provide that committee members will not be required to testify as to the proceedings of such committees. The bill will be reviewed by the Commission on Professional Liability and the Legislative Committee prior to its introduction into the legislature.

Office Personnel Workshops

Mrs. Braun briefly outlined the proposed workshop, "YOU, The Telephone Manager," which was developed by the American Medical Association and the American Association of Medical Assistants. The course, presented in two locations in Kansas (Topeka and Kansas City) on pilot basis, was well received.

The one-half day program consists of a workshop for medical office personnel on the topics of telephone techniques, patient relations and office management, and includes discussion of telephone company equipment and services, patient information booklets, and procedures that can reduce routine, nonproductive telephone calls. The key training segment is a role-playing

session, in which the medical assistants actively participate by acting out situational case studies outlined in the participant kits, with the use of Teletrainer equipment. Also included is a one-hour presentation by the KMS Legal Counsel, on the topic of medical assistant's role in avoiding lawsuits, on medical ethics and medical law.

Mrs. Braun announced that the Executive Committee has approved the following locations for the workshop, contingent on satisfactory pre-registration: Colby, Dodge City, Hays, Hutchinson, Lawrence, Manhattan, Pittsburg, Salina, Wichita, and Winfield.

Because continuing education of medical personnel is in the interest of the physician, the registration fee will be billed to the physician's office. A general membership mailing is planned for January 1977, and the workshops will begin in April 1977.

Student Loans

Dr. Yoder briefly outlined a possible program in which the Kansas Medical Society and the Kansas Farm Bureau would join to set up a medical student loan program. This would provide loans to medical students willing to establish medical practice in rural, medically underserved areas. Dr. Yoder mentioned that much work remains to be done before the details of this program can be reported, but he hoped that total commitment by the Society to such a program will be forthcoming.

Optometry-Ophthalmology

Dr. Michael R. Deitz, Co-Chairman of the MD-OD Committee, reviewed the work of that committee in some detail. He stated that the primary concern of the committee has been the use of topical pharmacologic agents by the optometrists to improve detection of ocular abnormalities, to enhance referral capabilities to physicians for specific diagnoses and therapy. Dr. Deitz explained that another problem addressed in the proposal concerned the fact that the Kansas Healing Arts Act specifically prohibits a physician from delegating to an assistant any procedure for which an optometrist is licensed. This includes such acts as field testing; testing for visual acuity, muscle balance, color vision, and refractions. Dr. Deitz presented the Delegates with a copy of the proposed bill to be introduced into the 1977 Legislature, which would resolve the above conflict without the necessity of altering the Healing Arts Act. This represents a compromise by both parties, whereby the ophthalmologists may utilize up to three assistants to perform certain acts for which optometrists are licensed, and the optometrists would be allowed the use of topical pharmacological agents, such as anesthetics, mydriatics, and cycloplegics.

AMA-CPT

Mr. Slaughter reminded the House of Delegates that Resolution No. 76-6 requested all fiscal agents to implement the AMA-CPT as soon as possible. To this end, the KMS Committee on Blue Shield Affairs proposes to initiate a broad-based educational program directed at Kansas physicians on the use of CPT, as a preliminary approach to conversion to this system. The Committee believes that, when the physicians of Kansas are well versed on use of the nomenclature and code contained in the CPT, the task of change-over will be more natural and simplified.

The Committee expects this educational process to take approximately one year. Newsletters, THE JOURNAL OF THE KANSAS MEDICAL SOCIETY, special bulletins, and other means will be utilized to disseminate the necessary information, during which time Blue Shield personnel can be assisted by AMA experts in the field, in an effort to speed the implementation of the AMA-CPT in its entirety.

The Speaker announced the composition of the Reference Committee as follows: Ivan E. Rhodes, M.D., Wichita, Chairman; Drs. Victor M. Eddy, Hays; Charles T. Hinshaw, Wichita; Richard Meidinger, Topeka; and Ronald L. Pitts, Shawnee Mission.

He then recessed the House of Delegates, at which time the Reference Committee went into session, with Dr. Rhodes presiding.

After the introduction of resolutions, the entire body was recessed for lunch.

SECOND SESSION

After lunch, the Speaker reconvened the House of Delegates for its second session.

Emerson D. Yoder, M.D., Denton, President, briefly addressed the House, urging every physician to personally meet with his legislators and to become involved politically, especially on the state level.

The House then proceeded to consider the following resolutions, after which the meeting was adjourned at 3:10 PM.

RESOLUTION NO. 76F-1

Not adopted.

RESOLUTION NO. 76F-2

Screening Panels

Resolved, That every member of the Kansas Medical

Society be encouraged to participate as a screening panel member pursuant to the program established by the 1976 Kansas Legislature with the enactment of SB 647.

RESOLUTION NO. 76F-3

Locum Tenens

(Tabled)

WHEREAS, The Kansas Medical Society has established a locum tenens clearinghouse; and

WHEREAS, It has been determined that current residency programs do not allow residents adequate time to participate in locum tenens without interfering with vacation time; therefore be it

Resolved, That the Kansas Medical Society request the Residency Program Review Committees to allow residents to do locum tenens as part of an Outreach Program, and that this time be considered as educational value towards completion of the residency program; and be it further

Resolved, That a copy of this resolution be forwarded to the American Medical Association for consideration on the national level.

RESOLUTION NO. 76F-4

Medical Student Loan Program

Resolved, That the Kansas Medical Society fully supports and endorses the development of a joint Medical Student Loan Program with the Kansas Farm Bureau; and be it further

Resolved, That the Executive Committee be directed to study, and if deemed justified, prepare a complete implementation proposal for review and approval by the Council at its January 1977 meeting.

RESOLUTION NO. 76F-5

Blood Group on Drivers License

WHEREAS, The blood groups are permanent identification elements of the human body; and

WHEREAS, A state-wide register of blood groups will give blood banks access to a large pool of potential blood donors, especially of uncommon blood groups; and

WHEREAS, Such elements of identification will also prove very useful in medical-legal work; therefore be it

Resolved, That A, B, O, and Rh blood groups be voluntarily included on the drivers license at the time of issuance or renewal of such license in the state of Kansas; and be it further

Resolved, That the applicants be responsible for procuring the certification of their own blood and Rh types; and be it further

Resolved, That accredited blood banks, hospital laboratories and doctor's office laboratories within the state of Kansas be designated as responsible institutions to certify the blood groups of the Kansas citizens.

RESOLUTION NO. 76F-6

Not adopted.

RESOLUTION NO. 76F-7

Not adopted.

RESOLUTION NO. 76F-8

Task Force on Child Health

WHEREAS, Only 10 per cent of the total funding of maternal and child health programs in the state of Kansas come from general revenue funds and 90 per cent from federal sources; and

WHEREAS, For the past several years federal funds for maternal and child health have not increased and inflation has, resulting in reduction and compromise of existing programs; and

WHEREAS, The future of the state of Kansas is dependent upon the health and welfare of its children; and

WHEREAS, Curative health care is costly and preventive health care is often inexpensive and results in savings of tax dollars; therefore be it

Resolved, That the Kansas Medical Society recommends that the Governor of the State of Kansas appoint a Task Force on Child Health to assess the status of existing infant and child health programs in the state and make recommendations to the Governor concerning the termination of inoperative or no longer needed programs, the future and funding of existing programs that are needed, and the need if any for new infant and child health programs.

RESOLUTION NO. 76F-9

Perinatal Care

WHEREAS, A three-year program to improve perinatal care in Kansas involving physicians and other

health professionals has resulted in a significant drop in perinatal mortality; and

WHEREAS, This program requires an integrated system of delivery at levels of increasingly complex care; and

WHEREAS, The success of the system is based on the ability of the two centers in Kansas qualified to deliver a tertiary level of care to fulfill their mission; and

WHEREAS, These two centers are overtaxed and at times unable to provide care due to inadequate staff, physical space and equipment; therefore be it

Resolved, That the Kansas Medical Society supports the efforts of the Perinatal Care Advisory Committee and urges the legislature to appropriate funds to immediately expand and improve neonatal intensive care facilities at Kansas University Medical Center and Wesley Medical Center.

RESOLUTION NO. 76F-10

Optometry

(Tabled)

Resolved, That revision of KSA 65-1508 and KSA 65-1501, as proposed by the MD-OD Committee, be supported by the Kansas Medical Society.

RESOLUTION NO. 76F-11

Child Abuse and Neglect

WHEREAS, Child abuse and neglect continues to affect the health and survival of the children of Kansas to a significant degree; and

WHEREAS, The development and utilization of protective and rehabilitation services is contingent upon the prompt recognition and reporting of a potential child abuse situation; and

WHEREAS, Recognition, reporting, and protective services need to be improved by the revision of the present child abuse legislation; therefore be it

Resolved, That the Kansas Medical Society will:

1. Support and participate in an effort to increase recognition and reporting of cases of suspected child abuse;
2. Endorse legislation which provides for
 a. increased and efficient reporting of child abuse,
 b. provision of appropriate protective custody,
 c. protection of the rights of the child and family.

Any endorsement of the Kansas Medical Society is subject to the approval of the final language of such legislation by the Legislative Committee of KMS.

DIRECTOR OF MEDICAL SERVICES

The Medical Services Section of the Department of Social Rehabilitation Services, which administers the Kansas Medicaid Program, is in need of a full-time Director of Medical Services. A Kansas physician with experience in general medical care and some knowledge of Kansas Medicaid Program is preferred. Duties include administration, policy formulation, and communication with all providers of medical care. The position will be vacant January 1977, upon the retirement of P. L. Beiderwell, M.D., who has held this position since April 1971.

The duties include utilization review and authorization of special services. A full-time physician or two part-time physicians are needed to fill this projected vacancy. For additional information, contact the Medical Services Section, Department of SRS, State Office Building, Topeka, KS 66612.

Obituaries

FRED P. BESTGEN, M.D.

Dr. Fred P. Bestgen, 81, of Manhattan, died October 4, 1976. He was born August 7, 1895, in Tipton, Missouri.

Dr. Bestgen was graduated from Creighton University School of Medicine in 1932. He obtained his Kansas license in 1944, and practiced in Geary and Riley counties since that time.

Surviving Dr. Bestgen are his wife, a daughter, and two sons.

DAVID L. COE, M.D.

Dr. David L. Coe, of Kansas City, Kansas, died October 5, 1976, at the age of 40. He was born January 15, 1936, in St. Louis.

Dr. Coe was graduated from the University of Kansas School of Medicine in 1967. He practiced medicine in the Kansas City area since that time.

ELVA ELTON EDWARDS, M.D.

Dr. Elva Elton Edwards, of Emporia, died November 8, 1976, in Greenville, South Carolina, at the age of 93. He was born December 23, 1884, in Rock Creek.

Dr. Edwards was graduated from the Kansas Medical College, Topeka, in 1908, and had practiced medicine in Lyon County from that time until his retirement, in 1974.

Survivors include a daughter, two sons, and a sister.

DARRELL LEE EVANS, M.D.

Dr. Darrell Lee Evans, 73, of Manhattan, died October 28, 1976. He was born December 15, 1904, in Summerfield.

Dr. Evans was graduated from the University of Kansas School of Medicine in 1931, and had practiced medicine in Manhattan since that time.

Surviving Dr. Evans are his wife, a son, two daughters, and a sister.

MARSHALL B. FLOWERS, M.D.

Dr. Marshall B. Flowers, 92, of Anthony, died October 25, 1976. He was born in Albany, Kentucky, June 4, 1884.

Dr. Flowers was graduated from the Hospital College of Medicine at Louisville, in 1907. He established his medical practice in Kansas in 1910, and practiced in Norwich, Harper, and Anthony.

Dr. Flowers is survived by a daughter.

J. ALLEN HOWELL, M.D.

Dr. J. Allen Howell, of Wellington, died November 8, 1976. He was 70. He was born March 19, 1906, in Mabank, Texas.

Dr. Howell was graduated from Baylor Medical College, in 1931. He interned at Ancker Hospital, St. Paul, and served his surgical residency at Mercy Hospital, Kansas City. With the exception of military service during World War II, Dr. Howell practiced medicine in Wellington. He served as President of Kansas Academy of General Practice (now Kansas Academy of Family Physicians).

He is survived by his wife, a daugher, a son, and a brother. A memorial fund has been established with St. Lukes Hospital, Wellington.

MEDICAL ASSISTANTS

Seven additional colleges or technical schools in five states have been granted accreditation of their medical assisting programs by the Council of Medical Education of the American Medical Association, in collaboration with the Curriculum Review Board of the American Association of Medical Assistants. These additions bring the total of accredited programs to 116 in 107 institutions, in 28 states. Two of these programs, for medical assistants in pediatrics, were approved by a Joint Review Board composed of representatives of the American Academy of Pediatrics, AMA, and AAMA.

The accredited, post-secondary-level programs provide a basic knowledge of administrative, laboratory, and clinical procedures. Subjects studied include anatomy, physiology, medical terminology, medical law and ethics, human relations, and insurance and bookkeeping.

Medical assistants aid physicians in private practice or in clinical or hospital settings. They are the direct link between physicians and their patients, and provide a variety of services from laboratory work to office management. There are over 18,000 members nationwide in the American Association of Medical Assistants, with 525 local chapters in 46 states and the District of Columbia. Qualified physicians serve as advisors at all three levels of the association.

A total of 1,815 certificates—the highest number in history—were earned in June 1976, by those taking the spring certification examinations, a credentialing mechanism administered under the authority of the Certifying Board of the American Association of Medical Assistants.

This record includes 1,085 who passed the basic certification examination, entitling them to use the initials CMA (Certified Medical Assistant) after their names. Specialty certification (Administrative, Clinical or Pediatric) was awarded to 730 candidates.

The basic certification examination and all three specialty examinations are given each year on the first Friday in June at more than 100 approved test centers throughout the country. In addition, the basic certification examination alone is administered each fall in the convention city on the Saturday immediately prior to AAMA's Annual Meeting.

The American Association of Medical Assistants, a national organization of more than 18,000 individuals employed by physicians in their offices, hospitals and other medical settings, offers these examinations as a service to both member and non-member medical assistants. Medical assisting instructors and students in AMA/AAMA or AMA/AAP/AAMA accredited medical assisting programs are also eligible to apply. Information may be obtained by writing the Certifying Board, AAMA, One East Wacker Drive, Suite 1510, Chicago, IL 60601.

Kansas MAs Certified

The following are the Medical Assistants employed by Kansas physicians, who have attained the degree of CMA during 1976:

Marcia Anderson, Salina—CMA-C
Rebecca A. Bickel, Overland Park—CMA
Sharon Blough, Kansas City—CMA-C
Glenda Cadwallader, Topeka—CMA-A
Marian Cunningham, Ness City—CMA
Fay Gossen Duey, Olathe—CMA-C
Lani Marie Dukat, Kansas City—CMA-C
Sharon Ann Dyer, Atchison—CMA
Peggy E. Ediger, Wichita—CMA
Gayleen Edwinson, Atchison—CMA
Charleen Ora Gross, Topeka—CMA-A
Thelma Guinty, Wichita—CMA
Eileen Hartman, Topeka—CMA-A
Josephine A. Hildman, Atchison—CMA
Gay LaBell Hunsaker, Olathe—CMA
Alberta Lou Irwin, Tonganoxie—CMA
Beth Ann Jones, Shawnee Mission—CMA
Betty L. Jones, Atchison—CMA
Betty Keilman, Ness City—CMA-A
Paula Ann Knowles, Caldwell—CMA-C
Christine Marie Leed, Independence—CMA-A
Gloria Lindsey, Wichita—CMA
Norma D. Madden, Topeka—CMA
Connie Lou Mills, Topeka—CMA
Jo Ann Mzhickteno, Topeka—CMA-C
Sandra L. Neff, Kansas City—CMA
Bonnie F. Raley, Overland Park—CMA-C
Margaret Russell, Liberal—CMA
Mary Jane Schmidt, Topeka—CMA-A
Barbara J. Senecal, Topeka—CMA
Kathryn M. Shipley, Overland Park—CMA
Sharon E. Tate, Kansas City—CMA-C
Harlean Ann Thissen, Topeka—CMA
Marilyn M. Wilson, Valley Center—CMA
Kay Winfield, Lawrence—CMA-C
Rita J. Wood, Salina—CMA
Marilyn Young, Topeka—CMA-A

The Journal of the

KANSAS MEDICAL SOCIETY

INDEX TO VOLUME LXXVII

JANUARY, 1976, TO DECEMBER, 1976, INCLUSIVE

Published Monthly by
THE KANSAS MEDICAL SOCIETY

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118th Annual Meeting

THE KANSAS MEDICAL SOCIETY

May 1-4, 1977

Broadview Hotel, Wichita

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Personalities—IN KANSAS MEDICINE

E. W. Crow, Wichita, served as moderator for a coronary care course, presented as part of continuing nursing education.

The newly elected chairman of the Blue Cross board of directors is **J. Warren Jacks,** Pratt.

E. C. Altenbernd, Overland Park, has been appointed to the Chronic Obstructive Pulmonary Disease Committee, the Kansas Lung Association.

Elected president of the Kansas Chapter, the College of Emergency Room Physicians, was **Dan J. Caliendo,** Wichita.

Raymond J. Beal, Fredonia, attended the 12th annual postgraduate symposium on Medicine and Religion held at KUMC.

Speaking at a meeting of the Restaurant and Purveyors Association was **Ray D. Baker,** Topeka. He discussed the ways in which the food service industry can better police itself.

Russell A. Nelson, Wichita, was speaker at the Southeastern Kansas Chapter March of Dimes meeting in Parsons. The topic of his presentation was, "Care of Your Newborn Baby."

The associate professor of family practice at KUMC, **George E. Burket, Jr.,** Kansas City, was elected to membership in the Institute of Medicine, National Academy of Sciences.

William Nice, Topeka, was a speaker and panelist at a pilot program on drug abuse, sponsored by Citizens Against Crime.

The featured speaker at a public meeting sponsored by the Macksville Lions Club, on the topic of eye care and research, was **Albert M. Lemoine, Jr.,** Kansas City.

Roscoe F. Morton, Arkansas City, attended the clinical reviews at Mayo Clinic, Rochester.

Coordinating a program on orthopedic problems for a seminar is **John Richards,** Phillipsburg. **Marc A. Asher** will serve as moderator of the case-centered sessions.

Jack W. Graves, Wichita, has been reelected to the board of governors of the American College of Surgeons.

The Cowley County Ostomy Chapter will have as its medical advisor **William H. Farrar,** Arkansas City.

Modesto S. Gomez, Pittsburg, has been named chairman of a health professionals advisory committee organized to survey perinatal and newborn health care needs for the March of Dimes.

TESTS OF UNBORN CHILD

All pregnant women past the age of 35 should be offered a test to determine whether their child will be normal, declares a research report in a recent issue of the *Journal of the American Medical Association.* The older mothers have an increased risk of giving birth to Mongoloid infants, the report points out. The test also should be given to expectant mothers of all ages who are Rh-negative, diabetic, have high blood pressure, or have a family history of defective children.

The test, known as amniocentesis, is a highly accurate and safe procedure, for both the mother and the unborn child, says the report from the National Institute of Child and Human Development, Bethesda, Md., following a five-year study. Amniocentesis means the extraction and analysis of fluid from the sac surrounding the baby inside the pregnant woman. It can predict many potential abnormalities. It also can detect the sex of the baby some months before birth.

Of the 1,040 women undergoing the test in the NICHD study, more than 95 per cent were reassured

of no abnormality in the fetus and their pregnancies continued, the report says.

Some 39 of the women learned from the tests that their child would be seriously deformed, and elected to have abortions.

There was no indication that amniocentesis injured either the mother or the unborn child, the report says. Diagnostic accuracy was 99.4 per cent.

MALPRACTICE RATES HURTING PATIENTS

Cost of physicians' malpractice insurance is hitting the patient where it hurts—in the pocketbook.

Patients paid an estimated $1.24 for malpractice insurance each time they visited a doctor in 1975. That amount was about 8.1 per cent of the full amount the patient paid for the visit, according to preliminary estimates of the American Medical Association. The impact on the patient this year is even greater, the AMA said, because malpractice insurance rates are still on the upswing.

In 1973, a patient paid an estimated average of 30 cents per doctor visit for malpractice insurance, or about 2.4 per cent of the full price of the visit.

AMA's estimates are based partly on its own survey of physicians and partly on data from federal agencies. The cost of his malpractice premium is considered to be a business expense of a physician, a component of the fee he charges.

Physicians paid an average of $610 for malpractice insurance in 1968 and $1,905 in 1973, the AMA's survey of doctors revealed. Since then, according to a government survey of the insurance industry, the premiums went up another 84 per cent in 1974, and 125 per cent in 1975. The AMA used those percentage increases to estimate the average payment per doctor in 1975 for malpractice insurance, $4,533.

All told, doctors' business expenses (including their malpractice insurance rates) have been rising substantially faster than increases in doctors' fees. During the eight years, 1966-1974, doctors' business costs per patient were rising at an 8.3 per cent per year rate, the AMA study says. At the same time, according to the Consumer Price Index, doctor's fees went up at a 6.2 per cent average annual rate.

Studies indicate that the sharp rises in malpractice insurance rates are also having a "ripple effect" on patient care and costs. In a survey of its members, the Texas Medical Association recently identified the steps physicians are taking to avoid a malpractice suit:

- 67 per cent of the Texas doctors said they were ordering more X-rays;
- 66 per cent were ordering more lab tests;
- 65 per cent were making greater use of a second physician's opinion;
- 51 per cent were setting limits on the procedures they were willing to perform;
- 50 per cent were delegating less responsibility for the patient's care to others;
- 48 per cent were hospitalizing their patients more.

The TMA study also found that the amount a physician pays for his malpractice insurance and its rate of increase tends to vary according to the "riskiness" of his medical specialty. Malpractice insurance premiums among Texas physicians in 1975 ranged from $1,023 (for psychiatrists) to $10,431 (neurosurgeons), while the premium increases over the past five years (1970-1975) ranged from 284 per cent (ophthalmologists) to 627 per cent (neurosurgeons).

Forty-eight per cent of the Texas physicians said increases in their malpractice insurance premiums had forced them to raise their fees in 1975, and 95 per cent anticipated that they would have to raise their fees in the future for the same reason.

Pediatric Teaching and Research

(Continued from page 562)

aid, and can select their own health marketplace. Subsidies have the potential effect of lower utilization rates in many teaching institutions. If they do not become competitive, *i.e.,* if they do not abandon the episodic care model and provide continuous and courteous service, they will lose access to much of the primary care market. And this market is essential to training additional numbers of needed primary care providers, and the amount of time currently devoted to such training by most academic medical centers is out of proportion to the need.[3]

The training function places obstacles in the path of developing an adequate service program. This makes it essential that medical education institutions devise satisfactory service/teaching models to meet the demand for more primary care physicians. University based primary care units must be developed into research laboratories which can examine the many issues related to the provision of primary care, the evaluation of such care, and the proper training of primary health care providers.

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118th Annual Session
KANSAS MEDICAL SOCIETY

May 1-4, 1977
WICHITA, KANSAS

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Monday, May 2–Sports Day, Crestview Country Club

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Wednesday, May 4–House of Delegates Second Session, Broadview Hotel, 8:30

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* **Indications:** When the fixed combination represents the dosage determined by titration: Adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, the nephrotic syndrome. Corticosteroid and estrogen-induced edema, idiopathic edema; hypertension, when the potassium-sparing action of its 'Dyrenium' component is warranted.

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Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in severely ill patients with urine volume less than one liter/day, the elderly or diabetics, with suspected or confirmed renal insufficiency. Periodic determinations of serum K^+ should be made. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **The presence of a widened QRS complex or arrhythmia in association with hyperkalemia requires prompt additional therapy.** Thiazides are reported to cross the placental barrier and appear in breast milk; fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and other adverse reactions that have occurred in the adult may result. When used in pregnancy or in women who might bear children, weigh potential benefits against possible hazards to fetus. Adequate information on use in children is not available.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics, or those with suspected or confirmed renal insufficiency. Watch for signs of impending coma in severe liver disease. If spironolactone is used concomitantly, determine serum K^+ frequently; both can cause K^+ retention and elevated serum K^+. Two deaths have been reported with such concomitant therapy (in one, recommended dosage was exceeded, in the other serum electrolytes were not properly monitored). Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving Dyrenium® (triamterene, SK&F Co.), and leukopenia, thrombocytopenia, agranulocytosis, and aplastic anemia have been reported with thiazides. Do periodic blood studies in cirrhotics to check for nondrug-related variations in blood pictures, and in patients with folic acid depletion, since 'Dyrenium' may contribute to appearance of megaloblastosis. Antihypertensive effect may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine.

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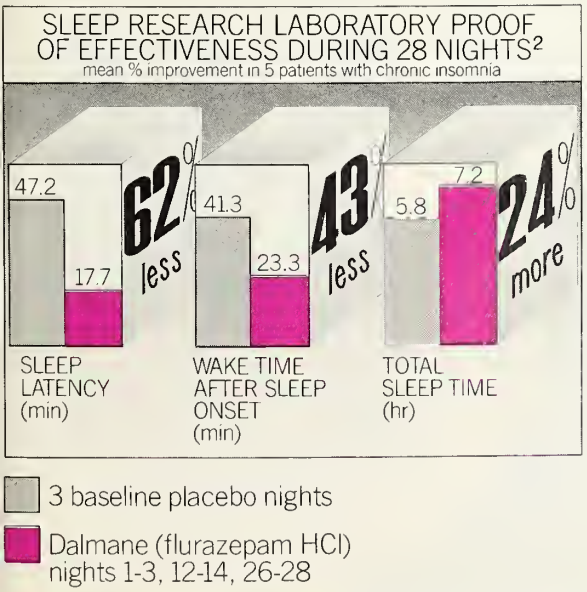

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- ☐ **less time awake during the night, maintained**

Before prescribing Dalmane (flurazepam HCl), please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended.

Contraindications: Known hypersensitivity to flurazepam HCl.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

Usage in Pregnancy: **Several studies of minor tranquilizers (chlordiazepoxide, diazepam, and meprobamate) suggest increased risk of congenital malformations during the first trimester of pregnancy. Dalmane, a benzodiazepine, has not been studied adequately to determine whether it may be associated with such an increased risk. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated, limit initial dosage to 15 mg to preclude oversedation, dizziness and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in patients who are severely depressed, or with latent depression or suicidal tendencies. Periodic blood counts and liver and kidney function tests are advised during repeated therapy. Observe usual precautions in presence of impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity, and elevated SGOT, SGPT, total and direct bilirubins and alkaline phosphatase.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg initially until response is determined.

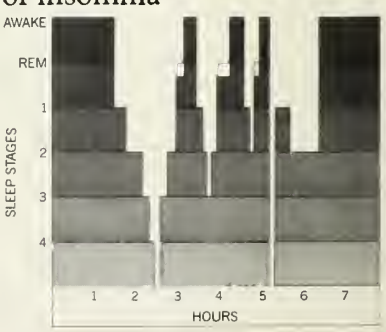
Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



REFERENCES:

1. Kales A, *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975
2. Dement WC, *et al*: Long-term effectiveness of flurazepam 30 mg *h.s.* on chronic insomniacs. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, Jun 30-Jul 4, 1975
3. Kales A, *et al*: *Arch Gen Psychiatry 23*:226-232, Sep 1970
4. Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Usual Daily Dosage: Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg *t.i.d.* or *q.i.d.*; severe states, 20 or 25 mg *t.i.d.* or *q.i.d. Geriatric patients:* 5 mg *b.i.d.* to *q.i.d.* (See Precautions.)

Supplied: Librium® (chlordiazepoxide HCl) *Capsules*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs© (chlordiazepoxide) *Tablets*, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.

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